Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly.

PERIODICAL ROOM
RECEIVED
JAN 29 1916
UNIV. OF MICH. LIBRARY

THE MEDICAL JOURNAL OF AUSTRALIA

(With which "The Australasian Medical Gazette," and "The Australian Medical Journal" are incorporated.)

The Journal of the Australian Branches of the British Medical Association.

VOL. I.—3RD YEAR—NO. 1. SYDNEY: SATURDAY, JANUARY 1, 1916. PRICE 6D.

TRADE MARK AD 1715

The 'Allenburys' Foods

ALLEN & HANBURYS LTD. desire to draw the attention of Medical Men to the undermentioned comparison of the "Allenburys" Milk Foods No. 1. and No. 2, when mixed according to the directions, with Human and Cow's Milk.

	Cow's Milk.	Human Milk.	Prepared as Directed. The Allenburys' Milk Food No. 1.	Prepared as Directed. The Allenburys' Milk Food No. 2.	Cow's Milk and Water Equal parts (a)
Fat	**3.0**	**3.5**	**3.33**	**3.06**	**1.5**
Casein	3.0	1.0	1.12	1.0	1.5
Albumen	0.5	1.2	1.00	0.81	0.25
Carbohydrates ...	4.5	6.2	10.20	10.86	2.2
Mineral Matters ...	0.7	0.3	0.67	0.62	0.35
Water	88.3	87.8	83.68	83.65	95.0

(a) The strength usually given to a young infant.

NOTE—It will be noticed that the proportion of **Casein in Cow's Milk is greatly in excess,** whilst the **Albumen and Lactose are deficient. No dilution of water can correct this.** When cream is added to diluted milk the proportion of fat can be made correct, **but the deficiency of Milk Albumen and Lactose is still further exaggerated.**

The Table of Analysis of Infants' Foods, when mixed ready for use, is more important than the analysis of the dry powder as determining the value of foods as compared with human milk.

Refer to Note issued by Dr. Robert Hutchison to face Page 470 of his book, "Food and the Principles of Dietetics," Third Edition, Revised and Enlarged, Second Impression, 1913.

APPARATUS for
ELECTRO-THERAPY
X-Rays Radium
High Frequency
Microscopes &c.
BRITISH Manufactured
Write for Illustrated Catalogue.
W. WATSON & SONS
OCEAN HOUSE :: :: SYDNEY
LONDON MELBOURNE

TISSOT'S
Absolutely the Finest Restaurant and Roof Garden in Australia
T. & G. Building,
ELIZABETH & PARK STS.
Fresh Air and Light. Lavishly Appointed. Overlooking Gardens with Harbour Views. Superb Lounge. Close to Theatres. 4 Lifts.
TARIFF:
LIGHT LUNCHEON at 6d. per course.
LIGHT DINNER at 6d. per course.
TABLE d'HOTE LUNCHEON 2/6
TABLE d'HOTE DINNER 5/-
A la Carte Service and Special Luncheon and Dinner to Order.
Afternoon Tea served in the Restaurant, Lounge and Roof Garden.
Banquets Catered for.
Open for Suppers on Fridays and Saturdays.
Refined Programme of Music by Leading Sydney Artists during Afternoon Tea and Dinner.
Cuisine under my Personal Supervision.
A. TISSOT, Late of Paris House
TELEPHONE CITY 510.
OPEN ON SUNDAYS

Index to Advertisements

AGENTS—
Backhouse & Goyder .. .. xv.
R. Barr Brown .. .. xv.

AMBULANCES—
Civil Ambulance and Transport Brigade .. .. xiv.

COLLECTORS—
Litchfield & Co., Ltd. .. .. iii.

CHEMISTS—
Denver Chemical Manufacturing Co. .. .. .. xvi.
Elliott Brothers, Ltd. .. .. xvi.
Felton, Grimwade & Co. .. .. v.
Kephirin Co. .. .. xii.
Kress & Owen .. .. vii.
Menley & James .. .. v.
Parke, Davis & Co. .. .. xviii.
Sulphaqua Bath Charges Co. .. .. xiv.
J. Watson . .. . xv.

CLOTHING—
Lincoln, Stuart & Co., Pty., Ltd. .. .. xii.
Peapes & Co., Ltd. .. .. xi.

DISINFECTANTS—
Carbolacene .. .. viii.
Trusol .. .. vii.

EXCURSIONS—
Victorian Government Tourists' Bureau .. .. xiii.

FOOD PREPARATIONS—
Allenburys' Diet .. .. i.
Benger's Food . .. . iv.
Glaxo .. .. v.
Horlick's Malted Milk.. .. .. xiv.
Lactogen .. .. x.
Maltine .. .. xvii.
Nestlé's Milk .. .. iii.

HOTELS—
The Joynton Smith Management Trust .. .. vi.

INSTRUMENTS—
W. Watson & Sons .. .. ii.

NURSES .. .. xv.

NURSING JOURNALS—
"The Australasian Nurses' Journal" .. .. .. xiv.
"Una" .. .. xiv.

PUBLISHERS—
H. K. Lewis & Co. .. .. viii.

RESTAURANTS—
Tissot's .. .. ii.

SANITARIUMS—
Sydney Sanitarium, Wahroonga .. .. xi.

WHISKY—
The Distillers' Corporation .. .. xiv.

THE MEDICAL JOURNAL OF AUSTRALIA.

VOL. I.—3RD YEAR. SYDNEY: JANUARY 1, 1916. No. 1.

SURGICAL AND X-RAY TREATMENT OF CANCER OF THE BREAST.[1]

By **C. E. Todd, M.R.C.S. (Eng.), L.R.C.P. (Lond.), M.D. (Brux.),**

Surgeon, Adelaide Hospital and Keswick Base Hospital.

I fear that the few rough notes that I have been able to put together on the operative treatment of cancer of the breast are hardly worthy of the ambitious title which appears on our agenda paper. There are, however, a few facts which my operative experience have enforced upon my mind, which I should like to bring before the members. If I seem at any stage to speak dogmatically, it will not be from any desire to thrust my own opinion unduly forward, but simply with the hope that I may promote discussion, and thus get the views of men, who possibly may have had more experience to guide them than I have, or perhaps whose experience has led them to form different conclusions.

Surgeons have been in the habit of removing breast tumours from earliest surgical times. The old plan, which had a good deal to recommend it, was to grasp the breast, pull it away from the chest walls, push two skewers through it at right angles, and then to make a clean sweep below the projecting irons. The resulting wound was then left to granulate, after the hæmorrhage had been stopped by the actual cautery. This operation had, at any rate, the virtue of being locally thorough, but I very much doubt whether it ever cured a single case of real cancer. It naturally inspired dread in the minds of those who had to submit to it, and this dread of surgical interference has survived even up to the present day, although all the surroundings have been completely altered. Now, up till comparatively lately, our methods have only differed from the old method by being less thorough. For many years I removed the breast itself, fairly widely it is true, but I only invaded the axilla when there were obviously enlarged glands there. Nor did I attempt to remove the pectoral muscles or the fascia covering them. When, with the advent of asepsis, it became evident that the size of a wound made little difference in the time of healing, or, indeed, in the amount of shock, surgeons began to adapt their practice to facts with which they had long been familiar, namely, that a very thorough removal of glands which receive the drainage from a cancerous organ is a necessity if a cure is to be even mentioned at all. For many years I did restricted operations, but I never hoped for an actual cure by them. The most I thought possible was a few months of freedom from disease, and then in the most favourable cases a recurrence inside where the disease would not be so obvious to the patient, nor the pain and hæmorrhage and œdema so distressing. Suddenly, we all began to do more and more extensive operations. First the axillary glands were cleared out in every case; the skin and surrounding parts were removed more and more widely, without any regard to subsequent bringing together; the pectoral fascia and the fascia covering the *serratus magnus*, and finally both pectorals, the sheath of the recti in the upper abdomen, and very often the clavicle, were divided, and the posterior triangle of the neck was cleared out. Now it would be useful to enquire by how much has all this surgical activity improved our results in these particular cases? One is, I think, bound to admit only by very little. The disease remains the same to-day as it was when operative measures were far less perfectly developed, and the number of real cures is still comparatively small. This is a most disappointing fact, but it is a fact if my own experience is any guide to what happens generally in surgical practice. Some years ago I read a book on "Cancer," by Sir Watson Cheyne. In the chapter on breast cancer, he claimed that by his very thorough method of operating, he had secured a cure in more than half the total number of cases operated on. I put down the book, feeling that my own results were very different from this, and I determined that if very thorough local removal could bring about a cure, my own work should not be lacking in thoroughness. Consequently, in every instance I removed both pectorals, cleared out the axilla, went in many cases up into the neck through a divided clavicle, and, latterly, did a complete operation, as described by Mr. Sampson Handley. I often spent a good half hour in clearing out every bit of fat from the depths of the axilla, whereas in reality the axilla can be cleared of all glands if properly done in five minutes. I must confess that this method did result in fewer local recurrences, but the same old trouble kept cropping up of metastases in distant parts, in the spine, in the upper part of the femur, in the mediastinal glands, and the end results were still very far from being satisfactory. I altered by technique from time to time. For example, I was driven to give up the Halsted method of removal of the breast. You remember, according to this plan, the whole breast is removed, and then the axillary glands still attached to the breast tissue are taken out, without dividing any of the lymphatics. I often thought that this plan might squeeze some of the cancer cells into the lymphatics of the arm by the traumatism to which the breast tissue was subjected, and I had a case in which eight months after the removal of the breast by the Halsted method a patient came to me with an enlarged gland above the inner condyles of her humerus. I promptly removed this. It was stated in the laboratory report that it contained the same growth as that which had been removed from the breast. I determined, therefore,

[1] Read at a Meeting of the South Australian Branch of the British Medical Association on October 28, 1915.

that I would traumatize the breast as little as possible, and that I would divide the lymphatics leading from the growth as far as I could before handling the growth itself at all. This can only be done to a limited degree, because, of course, there are the lymphatics which penetrate the chest wall under the growth. But I adopted the plan of clearing out the axilla first, and also divided the humeral attachments of the pectorals. I then turned my attention to the abdominal part of the operation, and removed all the lymphatics running in near the ensiform cartilage, including the fascia and sheath covering the upper part of both recti. Last of all, I removed the mass of the breast, which contained the growth, together with both pectoral muscles. This diminished the shock considerably, and was one of the best operations for the complete removal of a cancerous breast. If there was any local recurrence it remained local, inasmuch as the lymphatics had been divided. These local recurrences could be easily removed under local anæsthesia. The condition of the patient, however, with both pectorals removed and with nothing but scar tissue in her axilla, which constantly contracted and pressed upon her axillary vessels and brachial plexus, causing pain and œdema of her arm, was extremely unsatisfactory. I have therefore in my later work adopted the plan suggested by Dr. J. B. Murphy, of Mercy Hospital, Chicago, and have left the pectorals after removing their fascial covering, sewing them over the axillary vessels and nerves, and fixing them to the *serratus magnus* and *latissimus dorsi* below, so that they form an efficient soft covering for the vessels and nerves. There is, as a matter of fact, no extra risk from this procedure, inasmuch as there are no lymph nodes in the substances of the pectoral muscles themselves. All the lymphatics run in the muscle sheaths, and these have been most carefully removed. I have never seen a recurrence in the pectoral muscles, and the relief from preserving them is enormous.

Why is it that in spite of our constantly increasing thoroughness of removal, we are still face to face with the dismal fact that so few cases are really cured? If I look at the text-books, I am told that it is because the cancer is not removed at an early stage. This, of course, is true as far as it goes, but I can call to mind many advanced cases that have had long periods of immunity, and many quite early cases that have returned with terrible rapidity. About two years ago a young woman (22 years of age) presented herself at the Adelaide Hospital, with quite a small tumour of her right breast. I thought it an adenoma, but I arranged to have a frozen section taken during my operation. The report came back that it was a carcinoma, and, although I doubted this I did as complete an operation on that breast as I could. Nevertheless, in less than six months she was back, not with a local recurrence, but with extreme pain in her back, and she finally died of a metastasis in her lumbar spine. Evidently, early and complete operation will not bring about a cure in many instances. Speaking in general terms, my experience is that young, and particularly fat women, who have an active lymphatic circulation, are the patients who are most likely to get rapid and fatal, distant metastases, whereas elderly and particularly thin patients, with sluggish lymphatic circulation, are those less likely to get distant metastases, and more likely to suffer from the chronic, atrophic forms of breast cancer. An experienced surgeon can, as a rule, pick them out at a glance. What we have been looking for for some time, and what we have been hoping to find, in addition to early operation, which is still of paramount importance, is some means which will succeed in blocking the lymphatics leading from the diseased part and carrying the cancer cells far and wide. If we could find such a means of blocking the circulation, we might hope for a permanent cure in every case in which the disease still remained local. Now, although the time is too short and the number of cases is too small to enable me to express a dogmatic opinion on the subject, it does seem as though the systematic exposure to X-rays for long after the period of operation does offer considerable hope that in this agent we have the means at our disposal of so blocking the lymphatics that they become incapable of transmitting cancer cells. If this be so, then this is an enormous advance in the operative treatment of cancer of the breast. I began to use systematic X-ray exposures after breast cancer operations about three years ago, and, although it may be a coincidence, it is certainly a fact that in every one of these cases the patient is perfectly well to-day, and not one of them has presented any signs of either local recurrence or distant metastasis. Some of them were advanced cases, and some of them had extensive involvement of their supraclavicular glands, but under the influence of X-ray exposures, the latter have completely disappeared, as far as can be felt. I think every one, who has seen cases of local recurrence in cases that have been submitted to X-rays, will admit that, under its influence, ulcerated surfaces will heal, and the disease will disappear locally, for a time at any rate. I have shown a case of the kind to-night, which is responding very satisfactorily.

What do I mean by saying systematic exposures to X-rays after operation? I mean, of course, that the original site of disease and the whole area through which lymphatics run from it must have regular and rather prolonged exposure. The whole process in any particular case will take an hour or rather more. It is therefore well-nigh impossible for a general surgeon to undertake the detail of the treatment himself. He must have someone who lives with his tubes and knows precisely their condition, as this varies constantly with the weather and with the amount of use they are put to. Moreover, the whole X-ray outfit requires constant and most minute attention if the best work is to be got out of it. The treatment should be begun as soon as the operation wound has healed, and at first I give a general exposure once a week. Then, after about six exposures, one exposure a fortnight is given for six more, and, after that, once a month for say another six exposures. The number of exposures must, of course, be varied according to the idiosyncrasy of the patient, sometimes more and sometimes

less being given, according to the effect produced. I am not sure how long the treatment should be kept up, but it would be better to keep it on too long than for too short a time. Speaking in general terms, X-rays filtered through aluminium, to intercept the short rays, which cause skin irritation, should be applied for ten minutes or a quarter of an hour over the scar of the wound. Next the axilla is exposed for a like time, then the supraclavicular region; then the parts over the ensiform cartilage, where lymphatics run into the abdomen; then the rays are applied to the back, so as to act upon the lymphatics and glands in the mediastinum. It has been found that rays from some metals will often have a marked effect on cancer in cases in which X-rays alone seem to have little or no effect. In these cases, the rays are played on the metal, and this gives off its own characteristic rays. It does not strain them, as aluminium or leather does, but the rays excite the metal to give off its own characteristic ray.

Method of Treating Carcinoma of the Breast by X-Rays After Operation.

(1) A tube is used that is of a medium hardness, that will give off rays of a wave length that are absorbed by the tissues, but not hard rays, that penetrate through the body.

(2) The rays are applied very widely, and large doses are given, the dose being measured by milliampèremetre.

(3) The rays are carefully strained through about three or four millimetres of aluminium for deep-seated lesions, but through thick leather for lesions that are more or less superficial.

This method is supplemented by the production of characteristic radiation from copper, silver, tin, etc., the wave lengths being decided by their atomic weight. For instance, silver and tin having a greater atomic weight than copper, would, under favourable conditions, give off rays of greater penetrating power than copper, but the exciting rays from the X-ray tube must be of the correct wave length.

Experiments by Prof. Bragg show that there are two kinds of characteristic rays, and they are termed kappa and lamna rays, the kappa being more penetrating than lamna.

The method for applying characteristic rays is to get the piece of metal to be used and place it as near as possible to the part to be treated, care being taken that the metal does not touch the patient. The X-ray tube is then placed at a distance of about twelve inches from the metal plate, and if the wave length of the X-rays is correct for exciting the metal, a uniform, characteristic radiation of the kappa penetration can be produced, which is thought by some to be selective in its action upon cell life.

It is very noticeable after a few applications of characteristic rays that a reaction is set up that seems more pronounced than a reaction from pure X-rays, and that it leaves the skin very much more browned than X-rays.

The metal used should always be pure, as an alloy would not give a uniform, characteristic ray, and there would be a danger of creating a burn, beside losing the value of the rays from pure metal. The metal should always be just thick enough to absorb the rays from the X-ray tube.

Note.—It would be impossible to give the doses necessary to produce a result, as it all depends upon the output of the apparatus and the tube used. Tubes differ so much that what in actual measurement would be a big dose from one tube would be quite useless in another. Patients also differ. Miss A. reacts much quicker than either Mrs. B. or Mrs. C. It is therefore necessary that the apparatus used should be well understood, and the radiographer should learn how much the patient can stand with safety.

ASIATIC CHOLERA.[1]

By **J. S. C. Elkington, M.D., D.P.H.,**
Chief Quarantine Officer, Queensland.

The disruption of international health-protective organization created by the state of war now prevailing in so many parts of the world, increases very materially the risk of pandemic spread of the great epidemic diseases. A summary of certain salient points relating to cholera, and particularly to its symptomatology, may, consequently be of some practical interest. Australia's geographical position exposes her to a dropping fire of potential infection, and, despite the close watch kept at the maritime borders, it is more than likely that the enemy will eventually slip through. The case of the *Dorunda* in 1885-6 illustrates the risks. The recorded evidence makes it perfectly clear that this outbreak was true cholera, and the occurrence of 17 deaths between Cooktown and Moreton Bay gauges the virulence of the infection. The fact that the first diagnosed case began on the day the vessel reached Cooktown, on her voyage from Batavia to Brisbane, will indicate the insidiousness with which a virulent infection may become established.

Symptomatology.

Sir Patrick Manson[1] defines Asiatic cholera as follows:—

> An acute infectious epidemic disease, characterized by profuse purging and vomiting of a colourless, serous material, muscular cramps, suppression of urine, algidity and collapse, the presence of a special bacterium in the intestine and intestinal discharges, and a high mortality.

Whilst this furnishes an excellent clinical picture of the symptom-complex commonly met with in acute outbreaks of the ordinary virulent type, it fails to cover those mild and atypical cases which, if overlooked, may prove of great practical importance in spreading infection. For their detection, expert bacteriological assistance is a scientific requisite.

The Typical Case.

An attack of cholera of the ordinary severe epidemic type may begin in one of two ways. It may come on suddenly, without any well marked prodromal stage, or it may supervene more or less gradually, in the course of what appears to be an ordinary attack of diarrhœa and gastric disturbance. In either case, the clinical picture soon includes four salient features:—

(1) Profuse but painless diarrhœa, the stools rapidly becoming free from bile, and from fæcal appearance or smell.

[1] Read at a Meeting of the Queensland Branch of the British Medical Association on October 1, 1915.

(2) Copious, watery vomiting, with relatively little distress.
(3) Muscular cramps, usually working up from the extremities to the abdomen and lower part of the thorax, and increasing in intensity and frequency.
(4) Rapidly increasing prostration, with concomitant restlessness, weakening pulse at the wrist, cold clammy skin, and pinched, haggard face.

(1) *The Stage of Copious Evacuation.*

This has as its predominant feature the loss of a large quantity of fluid in a short time. In a severe case, the patient's body actually shrinks and shrivels before the observer's eye. The evacuations and vomit literally pour away, and several quarts of fluid may be passed in an hour or two. The surface temperature falls rapidly below normal, and usually presents a marked contrast to that in the rectum; the pulse becomes small and of very low tension, the heart beats increase in rapidity, and the patient complains of thirst.

As soon as the loss of fluid has caused a marked fall in the blood pressure, there ensues:—

(5) Diminution, and eventual suppression, of urine.

The differential diagnosis in this stage requires to be made from the following conditions:—

(*i.*) English cholera, or *cholera nostras.*
(*ii.*) Ptomaine poisoning.
(*iii.*) Acute bacillary dysentery.
(*iv.*) Algid malaria.
(*v.*) Acute arsenical poisoning.
(*vi.*) Infantile diarrhœa.
(*vii.*) Certain paratyphoid infections.

In all these conditions, except possibly the last, the stools commonly retain some tinge of yellow from the presence of bile, and more or less fæcal odour. In cholera, after the first emptying of the bowel and bile ducts, the stools are opalescent and, generally, odourless. The opalescence of cholera-stools is due to suspended epithelial flakes and granular matter from broken down cells, and, on standing, a portion of this suspended matter settles to the bottom. This is the classical "rice-water" stool, so called from its resemblance to water in which rice has been boiled. If any colour is present, the stools are usually pink or reddish. They have a faint, "mawkish" odour, very different from the normal fæcal smell.

Complete suppression of urine is more frequent in Asiatic cholera than in conditions simulating it.

In *cholera nostras*, the clinical picture may resemble that of cholera very closely, and a bacteriological diagnosis will be required to make the differentiation with any certainty.

In ptomaine poisoning, the evacuations are less copious than in cholera, and a history of simultaneous onset amongst a number of persons after the expiration of the cholera incubation period from leaving an infected port or place, will indicate the advisability of making enquiries as to some common article of diet. The possibility of an unrecognized cholera case or a carrier must, however, be borne in mind. Recovery in ptomaine poisoning is more rapid than is the case with a severe attack of cholera. Bacteriological examination of the stools would probably clear up the diagnosis in any recent case.

Certain fungi may produce symptoms similar to those of cholera. The vomiting in such cases will probably precede the diarrhœa. Fragments of the fungus will be found in the vomit, and the history will point to the origin of the illness, especially if more than one person is affected. This condition is, of course, rarely encountered under any circumstances, and particularly so on board ship.

Acute bacillary dysentery is more likely to be confused with the stage of collapse in cholera. Careful examination of the fresh stools will show mucus and possibly blood. Bacteriological examination is necessary for conclusive diagnosis.

Algid malaria is more liable to be confused with *cholera sicca* than with the ordinary severe type of the disease, although diarrhœa may be profuse. Microbiological examination of the blood and fæces will exclude cholera.

Acute irritant poisoning by arsenic or antimony may simulate cholera, but the complaint of metallic taste, the acuteness of the gastric symptoms, the severe and localized abdominal pain, and the character of the stools will lead to suspicion of an irritant poison. Chemical analysis of the vomit and bacteriological examination of the stools will clinch the diagnosis. Poisoning by corrosive sublimate may be similarly excluded.

Infantile diarrhœa and gastro-enteritis in young children may simulate cholera closely. Asiatic cholera is relatively infrequent amongst very young children, but a bacteriological examination may be essential for clearing up a doubtful case of acute intestinal infection. The clinical picture of cholera in children is very liable to be obscured by cerebral manifestations and to be ascribed to meningitis or convulsions.

Infections with bacteria of the paratyphoid group are stated by Castellani and Chalmers[2] to have produced typical rice-water motions, together with other symptoms simulating cholera. Bacteriological examination and immunity tests will differentiate the conditions.

The conclusive diagnosis of cholera depends on isolation and identification of the cholera vibrio in pure culture. The technique required for such examination will not be here dealt with.

(2) *The Stage of Collapse or Algide Stage.*

In a typical case the condition passes into the stage of collapse or algide stage, either by gradual accentuation of the results of the loss of fluid or by sudden failure of the circulation. In mild cases this stage does not occur, and in the severer cases it varies in rapidity of onset and in degree. It is characterized by:—

(1) Great weakness of the pulse, and low blood pressure.
(2) Complete suppression of urine.
(3) Intense thirst.
(4) Severe muscular cramps.

(5) Lessening of the evacuations in frequency and amount.
(6) Rapid increase of prostration, with cold, shrivelled skin and whispering voice.
(7) More or less pronounced variation between the rectal and surface temperatures.

The mind usually remains clear, and the condition is particularly distressing to witness.

The differential clinical diagnosis in this stage is made from the conditions above described in connexion with the stage of copious evacuations.

The stage of collapse lasts from a few hours to one or even two days. The longer it lasts, the greater is the danger of serious later complications, and especially of uræmia. If it is survived, the stage of reaction begins slowly.

(3) *The Stage of Reaction.*

The pulse improves slowly, the stools become less frequent and less copious, and thicken in consistency, the vomiting ceases, the surface temperature rises to and soon exceeds normal, and the restlessness gives place to a tendency to sleep. In the milder cases the secretion of urine begins to be re-established within twelve or twenty-four hours, although catheterization may be needed to prevent retention in the bladder. In severer cases re-establishment of secretion may be delayed for two or three days. The particular risks at this stage are uræmia and hyperpyrexia. Some rise of surface temperature occurs almost invariably. Minor degrees of this reaction usually subside in a few hours, but in severer cases the febrile state increases and the so-called "cholera typhoid" condition may supervene and last from several days to a fortnight or longer. This condition may simulate typhoid fever very closely, with "pea-soup" or greenish motions of very offensive smell, low muttering delirium, dry brown tongue and accelerated respiration.

Differential diagnosis at this stage may require to be made from the after results of certain of the conditions already alluded to when describing the previous stages of the disease, and also from the following:—

(1) Uræmia, of non-choleraic origin.
(2) Pernicious malaria.
(3) Typhoid fever.

The complications and sequelæ of cholera are due principally to the interference with circulation during the collapse stage. They include parotitis, sloughing of the cornea, gangrene of the nose, mouth, vulva, penis, scrotum, fingers or toes, pneumonia, pleurisy, bronchitis, pulmonary œdema, dysentery and diarrhœa, and persistent asthenia. "Pregnant women almost invariably miscarry, the fœtus showing evidence of cholera" (Manson).

Mild and Atypical Forms of Cholera.

Ambulatory cases probably occur during all epidemics. The motions never reach the "rice water" stage, but retain more or less colour. There are no cramps, and the urine, though it may be lessened in amount, is never completely suppressed. Malaise is present for a time, but the attack subsides gradually, without passing through the stages of collapse or reaction. These cases are not, of course, "carriers" in the strictly technical sense, but they may act as dangerous spreaders of infection.

Cholerine.

Cholerine or choleraic diarrhœa is accompanied by rice-water stools for a short period, but the loss of fluid terminates before the production of collapse, or suppression of urine, and is not followed by any definite reaction. Cramps may be present for a time, but not to any severe extent. These cases are liable to develope late uræmia if a pre-existing chronic kidney lesion is present.

Cholera Sicca.

In this somewhat rare and very fatal form of cholera, rapid collapse occurs, with little or no vomiting or purging. The rice-water evacuations may be found in large amount in the bowel, possibly accompanied by formed fæces in the lower bowel. The following notes on a case in Manila in 1913 illustrate the peculiar difficulties which may attend clinical diagnosis of this form of the disease:—

> On Saturday evening, August 23, he (the patient) left his place of employment apparently in good health. About noon the next day he was seized with violent pains in the stomach, which later in the afternoon increased in severity, and, in addition, marked pains began in the muscles of the calves and forearms. There was no diarrhœa. . . . The man was in a moribund condition when he arrived (at hospital) at about 10 p.m., and died a few minutes later. At the autopsy, which was held in the morning of August 25, the typical pathological lesions of *cholera sicca* were present. The lower bowel contained a large amount of hard, formed fæces. A liquid ricewater-like fluid was found in the ileum, cultures from which, prepared in accordance with the procedure recommended by the Internationale d'Hygiène Publique Conference, resulted in the isolation of the true cholera vibrio."[4]

Cholera in Children.

The clinical picture of cholera in children is often atypical. Cerebral manifestations, such as convulsions, coma, and cerebral irritability are very common, and these cases are liable to be mistaken for acute or chronic enteritis, gastro-enteritis, entero-colitis, dysentery, acute or simple meningitis, "convulsions," or infantile beri-beri. Children are especially liable, as "missed cases," to play an important part in the spread of epidemic cholera.

Atypical Cases in an Outbreak.

Rosenthal,[5] detailing his experiences in a cholera hospital in Philippopolis, during the Balkan War, states that about a quarter of the 283 cases seen by him showed no cyanosis, or a trifling indication only. Some mild cases resembled enteritis without retraction of the abdomen, but had a typical blood picture. Rice-water stools were by no means uniformly present, even in the severest cases. Sometimes the stools were pasty, blood-stained or blue. Tenesmus was present in only one case. The blood picture referred to is described as a valuable aid to diagnosis in the early days of illness. It included a very marked polymorphonuclear leucocytosis, the large lymphocytes being as numerous as the small, and eosinophiles being absent. The mortality rate of cases was 25.7%.

Heiser[6] (1913) states that since 1907 it has been noted in Manila that outbreaks of cholera have in-

variably been preceded by deaths, which the pathologist attributed to acute nephritis, and in which he failed to find the cholera vibrio. He refers also to persons who died with symptoms of acute ptomaine poisoning; the post mortem findings included signs of acute nephritis, but bacteriological examination for cholera proved negative.

Munson[7] (1915) records that a considerable proportion of the cholera-positive specimens secured from dead bodies during the 1914 outbreak were from deaths reported as due to enteritis, diarrhœa, dysentery, infantile beri-beri, and pulmonary tuberculosis, particularly the last named.

Prognosis.

Rogers[8] thus classifies the factors influencing case mortality in cholera:—

(1) Number of cases admitted with no pulse at the wrist.
(2) Number of cases admitted with blood specific gravity of 1066 and upwards.
(3) Number of cases requiring more than one intravenous injection.
(4) Number of cases over 50 years of age.

Prophylactic Injections.

Prophylactic injections for protection against cholera have been used on a large scale in India and elsewhere. These were first applied scientifically by Professor W. M. Haffkine. Kolle claimed to have introduced a new and improved method, but his alleged discovery had been previously made and rejected by Haffkine. The considerable reaction which occurs after these injections interferes somewhat with their large-scale use under European conditions. Strong has evolved a method of eliminating the irritant and depressing intracellular toxins, but the system requires further trial. Considerable evidence exists to show that prophylactic injection on the Haffkine principle has proved of much practical value in protecting exposed populations under difficult conditions.

Bacteriological Diagnosis.

The critical bacteriological diagnosis of cholera is beyond the scope of this paper, but it is desired to emphasize the fact that, especially in sporadic and doubtful cases, skilled bacteriological assistance is an essential pre-requisite.

Treatment.

The modern treatment of cholera is based practically on the mechanical and chemical replacement of the lost fluid and salts of the blood, with auxiliary attempts to neutralize as far as possible the development of toxins in the bowel and to prevent uræmia. The method of intravenous injection of hypertonic saline, with administration of potassium permanganate pills and calcium permanganate in solution, devised by Professor Leonard Rogers,[3 8] of Calcutta, has yielded results far in advance of any other method, and represents one of the most brilliant pieces of pathological research of the present decade. The apparatus required is simple, and the technique is not complicated or difficult. The solution is composed as follows:—

Sodium chloride, grains 120 (8 grammes).
Calcium chloride, grains 4 (0.25 grammes).
Potassium chloride, grains 6 (0.4 grammes).
Water, to 1 pint (568 c.cm.).

The potassium permanganate pills are made up in two grain doses, with kaolin and vaseline, salol and sandarach varnish, or keratin being used for coating.

The injections are made into a vein at the bend of the elbow, or in certain cases (as in young children) into the vein over the internal malleolus of the ankle, or the internal saphenous. The usual precautions for intravenous injections are taken. The fluid is kept at about 100° F. in the container, in order to approximate to the normal body temperature, but in cases of hyperpyrexia it may be cooled as required by the condition, to avoid further rise of temperature. About four pints are used for an averagely severe collapse stage in an adult male, but the object to be aimed at is the restoration of a normal blood pressure, with a full, bounding pulse. Distress or increased frequency of respiration are indications for stopping injection. For full details of technique, Rogers' work on "Cholera and its Treatment" should be consulted. His latest published results appear in the *Lancet*, of July 31, 1915. These include observations on the use of sodium bicarbonate and atropine for the prevention of post-choleraic uræmia.

Other methods of intravenous injection have been largely used, but without the same remarkable results as have obtained with hypertonic solution. Isotonic solutions were used as far back as 1832 by Latta and Mackenzie, in Edinburgh. The American workers in Manila have obtained good results from solutions of sodium sulphate (10 grms.), sodium chloride (5 grms.), and water (1000 c.cm.). A solution containing sodium chloride and sodium bicarbonate has also been used with good results.

Sellards[9] has worked at the acidosis of cholera, and the use of bicarbonate of sodium in large doses for the reduction of the death-rate from uræmia after cholera.

Preventive Action in Cases of Suspected Cholera.

The marked tendency which cholera displays for spreading by personal contact, and for creating carriers amongst the personal entourage of the patient, together with the obscurity which may veil the true character of atypical cases, renders it very necessary that prompt action should be taken to limit possible infection until the true nature of the condition is cleared up by bacteriological investigation. All discharges from the patient should be carefully and effectively disinfected by mixing or soaking with at least an equal volume of a 2½% solution of a good cresol disinfectant, and allowing to stand for several hours before they are disposed of. The access of flies to discharges must be carefully prevented. Those in attendance on the patient should be warned of the necessity for scrupulous care in cleansing their hands, and all utensils used in the sick room. The use of rubber gloves by nurses and attendants is likely to prove useful in avoiding infection. The patient should be closely isolated and protected from flies. A specimen of the fæcal discharge should be secured and forwarded for examination by a skilled bacteriologist, and the case

reported to the proper authority without delay. It is of considerable practical importance that all persons who have been in contact with the patient since the beginning of illness should be located, as it is amongst these persons that carriers are most likely to be found. In cholera hospitals steps must be taken to detect possible carriers or atypical cases amongst the staff.

Official action in respect of atypical or suspected cases will necessarily include the tracing and prompt disinfection of all discharges and fresh fomites, the segregation of patients and contacts until bacteriological investigation is completed, and other general action for dealing with a cholera focus. The carrier and the "missed case" are the most potent of all factors in carrying on a sporadic outbreak to epidemic intensity, and until this chain is broken the prospects of successful suppression of the disease will be very poor indeed.

References.

[1] Sir Patrick Manson—*Tropical Diseases*, 5th Edition.
[2] Castellani and Chalmers—*Manual of Tropical Medicine*, 2nd Edition.
[3] Professor Leonard Rogers—*Cholera and its Treatment.*
[4] *Reports of the Bureau of Health for the Philippine Islands*, Third Quarter, 1913.
[5] Rosenthal—*Berl. Klin. Wochensch*, Vol. 51, No. 8, February 23, 1914, p. 342.
[6] Heiser—*Public Health Reports, U.S. Public Health Service*, October 10, 1913, p. 2097.
[7] Munson—*Philippine Journal of Science*, Vol. X.B., No. 1.
[8] Rogers, L.—*Indian Medical Gazette*, January, 1915, p. 4.
Rogers, L.—*Lancet*, July 31, 1915.
[9] Sellards, A. W.—*Philippine Journal of Science*, B., 1910, p. 363.
Sellards—*American Journal of Tropical Diseases*, 1914, p. 104.

Reports of Cases.

A CASE OF CHRONIC EMPYEMA TREATED BY VISCERAL PLEURECTOMY.

By **Alan Newton, M.S. (Melb.),**
Surgeon to Out-Patients, Melbourne Hospital.

Operations for the relief of chronic empyema fall into two groups: (*a*) Those in which the cavity is obliterated by removal of the chest wall and parietal pleura, a method which was introduced by Estlander, and has since been modified by numerous surgeons; and (*b*) those in which the visceral pleura is excised or incised, in the hope that expansion of the lung will result.

The operation of visceral pleurectomy was first introduced by Fowler,[2] who, during an operation on a case of chronic empyema, was surprised to discover that the lung began to expand when the thickened pleura surrounding a fistula was removed.

Almost simultaneously, de Lorme,[3] after investigating cases of this type at autopsy, decided that the lung would re-expand if freed from its covering of thickened pleura.

Attention has been directed to the operation by Mayo and Beckman,[1] who have expressed surprise that surgeons should have been so neglectful of this method.

They have reported four cases, in two of which the empyema had persisted for more than six months, and have stated that in their hands the operation has been most successful.

They lay stress upon the necessity for a careful preparation of the patient, and, if advisable, urge performance of the operation in stages.

In some difficult cases they realize that the Ransohoff technique must be employed.

Ransohoff[4] advised making multiple incisions at right angles to each other, about ¼ inch apart, through the pleura down to the lung, so that the entire visceral layer should be gridironed.

If visceral pleurectomy fails to obliterate the cavity completely, some lung expansion will occur, and a modified Estlander or Schede operation will then accomplish all that is necessary.

Visceral pleurectomy does not produce anything like the shock of these operations, and proved very successful in the following case:—

J. McC., aged 28, driver, single, was admitted to the Melbourne Hospital in March, 1914. His history was that he had been ill for two weeks, complaining of pain in the right side of his chest. He had a rigor at the onset of his illness, and had been vomiting at intervals since.

On examination, absolute dulness, extending as high as the third dorsal spine, was present. An exploring needle revealed the presence of pus, and a very large quantity was evacuated after the resection of portion of the ninth rib in the mid-axillary line.

The progress of the case was unsatisfactory. The discharge continued, and was profuse and foul. The temperature was intermittent, and the man became very emaciated. All the usual remedies were employed, and on two occasions the opening was enlarged, to allow of free drainage.

Seven months after the first operation the patient's condition was very grave. Emaciation was very marked, and the discharge was copious and foul. An X-ray examination revealed dense pleural thickening, no lung expansion, and some free fluid. It was decided to perform a plastic operation in the chest wall in stages.

Under regional anæsthesia, three inches of each of the seventh, eighth, ninth and tenth ribs were removed in the axillary region. In this way the cavity was drained freely, and an immediate improvement resulted.

One week later further portions of ribs were removed, so that it was now possible to explore the cavity. This was very extensive, being limited only by the anatomical boundaries of the right side of the thorax. The pleura was greatly thickened, and the lung was collapsed, and was lying along the inner wall of the cavity.

In preference to proceeding with the attempt to close this extensive space by plastic operations on the chest wall, it was decided to remove the visceral pleura. This was easily accomplished by cutting freely with scissors along the lines of pleural reflection and then separating the pleura from the lung by blunt dissection. In this way the visceral pleura was removed intact (see Fig.). There was very little bleeding. No attempt was made to close the opening in the chest wall.

Specimen of Visceral Pleura. The Glass Rod is separating the Ventral and Dorsal Borders, showing the Ragged Internal Surface of the Pleura.

After the operation improvement continued. The patient gained 1½ stones in weight in two months, and the wound closed rigidly. Breath sounds were audible in the upper part of the right chest six weeks after the operation. In three months the patient was fit for work, but was handicapped by the presence of a small, discharging sinus, which required dressing once daily.

Nine months after the operation an X-ray examination demonstrated that the lung had re-expanded very well.

There was some pleural thickening in the region of the eighth rib in the mid-axillary line, extending downwards and inwards to the diaphragm. At an operation performed three weeks ago the sinus was excised and a narrow cavity opened. In this region the expansion of the lung had not been complete, and, to allow of further expansion, the inner wall of the cavity was incised in the manner advised by Ransohoff. The cavity was healing well when the patient was discharged to the out-patient department a fortnight later.

Such a satisfactory result in a severe case of chronic empyema greatly exceeded my expectations, and I publish these notes in order to attract further attention to the operation of visceral pleurectomy.

I must acknowledge my indebtedness to Capt. F. B. Lawton, A.A.M.C., late Surgical Registrar of the Melbourne Hospital, for his help with the case.

References.

[1] Charles H. Mayo and Emil H. Beckman—*Annals of Surgery*, 1914, LIX., 884-890.
[2] Fowler—*Med. Rec.*, 1893, XLIV., 838-839.
[3] De Lorme—*Seventh Congress de Chir.*, 1893, Paris.
[4] Ransohoff—*Annals of Surgery*, 1906, XLIII., 502-511.

Reviews.

PYORRHŒA.

From the well-known press of W. B. Saunders Company comes an interesting and valuable book, "Alveolo-Dental Pyorrhea,"[1] by Bass and Johns, of the Tulane Medical College, U.S.A.

This almost universal disease has, except in advanced cases, received scant attention from physicians, yet, because of its intractable character and its scarcely realized, yet definite, effects in causing obscure anæmias, various types of indigestion, etc., it should rank as one of the most important in minor, if not major, medicine.

Osler says that if a visiting card be passed between the lower incisors of any ordinary individual in the early twenties, the débris so collected has a distinct, cheesy odour, due to the activity of micro-organisms permanently infecting the gums and tooth sockets. In many, the condition progresses, tartar accumulates, infection takes place, the authors assert, with *Entamoeba buccalis*, the peridental membrane is attacked, the gum and bony socket retract or are destroyed, and the roots of the teeth laid bare. Pressure on the gums, which bleed readily, causes pus to well up from the sockets. The authors estimate this in amount at not less than eight gallons of pus in ten years.

W. Hunter, in his monograph on pernicious anæmia, has pointed out the widespread effects of such oral sepsis. The diagnosis of cancer of the stomach, and liver has been made in conditions which cleared up after attention has been given to an existing pyorrhœa.

Incidentally, we hardly agree with the author's substitution of alveolo-dental for alveolar, seeing that the dental or tooth side is of little or no importance.

The monograph deals with the whole problem, details the microscopical methods for identifying the causal organism, the *Entamoeba buccalis*, and gives details of the effective treatment with emetine (internally by hypodermic injection or by mouth, and locally).

Prophylaxis by the maintenance of a clean mouth forms a most valuable chapter. Injury to the gums must be avoided. They would therefore ban the toothpick, dental floss, and the stiff toothbrush. Once a day the use of a fine bristle brush or soft gauze or cloth, movement being made from gum to tooth edge, should suffice to remove débris. This procedure agrees with Hunter's method of performing the toilet of the mouth and gums with a swab on a probe or artery forceps, soaked in 1 in 100 carbolic acid solution.

Toothpaste they do not advise, but advocate strongly the use of a dilute solution of emetine as a mouthwash. The common drinking cup, exchange of food, kissing, putting articles into the mouth, eating with unclean hands, spitting, etc., are all objected to as possibly conveying infection. Although occasional failure is acknowledged, the use of emetine, together with dental surgery, appears most hopeful in dealing with this difficult and annoying disease.

Considering its almost universal prevalence (it is not uncommon in medical men themselves), this book can be heartily recommended for the medical practitioner's library. The print, illustrations and "get up" generally are unexceptionable.

[1] Alveolo-Dental Pyorrhea, by Charles C. Bass, M.D., and Foster Johns, M.D., 1915. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; 8vo., pp. 167, with 42 illustrations. Price (cloth), 12s.

FRACTURES.

C. L. Scudder's book on the treatment of fractures[1] is a complete work on the subject, and is a most practical guide to practitioners in the treatment of cases, to medical jurists in giving evidence as experts, and to the advisers of companies who indemnify firms under the Workmen's Compensation or Employers' Liability Acts.

In the author's preface to the eighth edition, note has been made of the fact that "the application of the principle of autogenous bone-graft in delayed union and non-union is the greatest advance in the treatment of fractures," yet there does not appear to be any part of the work devoted to this aspect of the matter. It is likely that the author is awaiting the result of a good trial of these methods.

Gunshot fractures, Röntgen rays, the employment of plaster of Paris and the ambulation treatment of fractures are dealt with in an excellent manner in separate chapters. All these aspects of the subject are particularly interesting at the present time, especially to the army surgeon The use of plaster of Paris has found most favour in America, although Cabot's wire splint seems to be very popular. The old principles in Thomas's splint, which have recently received the strong advocacy of Mr. Robt. Jones, of Liverpool, is especially referred to in the chapter on ambulatory treatment.

The operative treatment of fractures is dealt with, but for particular details it would be better to refer to works on operative surgery or to monographs on the subject.

The work can be recommended on the score of completeness. It will be found useful as a working text-book, and as a book of reference for students. General practitioners will do well to give it a place on the shelves of their libraries.

[1] The Treatment of Fractures, with Notes Upon a Few Common Dislocations, by Charles Locke Scudder, M.D.; 1915. Philadelphia and London: W. B. Saunders Company; 8vo., pp. 734, 1057 illustrations. Price, £1 6s. 6d.

A MEMORIAL TABLET TO THE LATE CAPTAIN BRIAN C. A. POCKLEY.

A tablet in memory of the late Captain Brian C. A. Pockley was unveiled at the Sydney Hospital on December 22, 1915, by Dr. Ralph Worrall, on behalf of the members of the honorary medical staff. There was a large gathering, including Dr. Antill Pockley, Dr. Guy Antill Pockley, several relatives of our lamented colleague, Lieutenant-Colonel G. Lane Mullins, the members of the staff of the Sydney Hospital, and many others. The tablet bears the legend:—

Deo; Patriae; Tibi.

In Memory of
Brian Colden Antill Pockley, M.B., Ch.M.,
Captain, A.A.M.C., First Australian Expeditionary Forces; Resident Medical Officer, Sydney Hospital.
Killed in Action at Kaba Kaul, New Britain, September 11, 1914.
He died through giving to a wounded comrade the badge protecting his own life.

Dr. Worrall, in an appropriate speech, sketched his career, and spoke in glowing terms of his high qualities, both as a practitioner and as a man. He then recalled the events which led to his untimely death, and paid a very high tribute to his splendid disregard for self and solicitude for the safety of others. "A death like this," he said, "was a triumph in which the love of one's country and the love of one's comrades overshadowed all thought of one's self." Before closing, he made a suitable reference to the late Drs. Muir Smith, Eric Giblin and Arthur Verge, all of whom have died for their country.

Mr. S. E. Lees spoke on behalf of the Board of Directors.

The Medical Journal of Australia.

SATURDAY, JANUARY 1, 1916.

In Memoriam.

There is a time for taking stock of the present; another for casting furtive glances into the future and endeavouring to penetrate the thick shroud which envelopes to-morrow; and yet a third for pausing to look back. As a new year is begun, it is profitable to regard the preceding twelve months in an essay to gather fragments from its history which may teach, guide or warn us. A retrospect may be a solemn duty, like a last rite, before the old year in finally buried and the remains of what was are hidden for all time from view. On the first day of 1916, we look back on close on sixteen months of devastation and bloodshed, of an inexorable struggle against a foe, strong, determined and desperate, trained in arms and prepared to use any means to gain a point, of sacrifices and deeds of heroism. These months have witnessed a thinning of our ranks, but who can tell how many more will fall before the sword of the Empire can be returned to its sheath. As the year changes its cypher, we would fain do homage to those who have given their lives for our country, and if we then turn from the dear dead to the living, we know that time cannot dim the memory nor detract from the honour they have earned. The list of those who have fallen and who have died of sickness while on active service is a long one, and contains names of men of sterling qualities and great promise. There were Pockley, Muir Smith, Mathison, Scot Skirving, Campbell, Levi, Verge, Giblin, Richards, Luther, Howitt, Langley, Leonard Wright, Rothera, Fairley and Buchanan. They are men of whom Australia and the medical profession may well be proud; they gave their lives in the service of their country.

PROGRESS OF MEDICINE IN 1915.

Science is fitful. Its progress depends on many obvious and not a few less evident factors. With the disorganization of the whole world in the colossal struggle against military oppression, scientists, like others, have pushed aside their usual vocations to join the vast armies in the West and in the East. The number of medical men serving with the colours suggests that it is highly improbable that material advance will be made in medical science during the continuation of the war. Progress, however, is not entirely dependent upon opportunity, and may evolve in an unexpected manner, and in an unexpected place. The record of the year 1915 contains achievements largely connected with military surgery and military medicine, but some advance has been made in other branches of practice. Much of the best work completed during the year has been rather in the nature of the application of established principles than the discovery of new facts and new methods. In the case of the prophylaxis of enteric fever for example, inoculation has been practised on a scale hitherto undreamed of. Some time must elapse before it will be possible to measure the true value of this form of vaccination undertaken under the conditions obtaining in modern warfare. It is probable that six or seven million men have been inoculated against enteric fever. Judging from the reports available it would appear that the protective power of this vaccination has been responsible for the extraordinary low incidence and mortality of this disease among the combatant troops.

Some extremely important laboratory work in connexion with gaseous gangrene has been carried out by the workers at the Pasteur Institute of Paris. The bacteriology and pathology of wound infection has been advanced by these researches, and a still further advance has emanated from the fertile brain of Almroth Wright.

The duel between the advocates of strong antiseptics and the adversaries of chemical bactericides has been continued, and has not yet reached that stage which would justify an authoritative announcement. The introduction of compounds of hypochlorous and boric acids may be regarded as an important advance in antiseptic treatment. The bacteriological foundation for the use of this so-called

There was some pleural thickening in the region of the eighth rib in the mid-axillary line, extending downwards and inwards to the diaphragm. At an operation performed three weeks ago the sinus was excised and a narrow cavity opened. In this region the expansion of the lung had not been complete, and, to allow of further expansion, the inner wall of the cavity was incised in the manner advised by Ransohoff. The cavity was healing well when the patient was discharged to the out-patient department a fortnight later.

Such a satisfactory result in a severe case of chronic empyema greatly exceeded my expectations, and I publish these notes in order to attract further attention to the operation of visceral pleurectomy.

I must acknowledge my indebtedness to Capt. F. B. Lawton, A.A.M.C., late Surgical Registrar of the Melbourne Hospital, for his help with the case.

References.

[1] Charles H. Mayo and Emil H. Beckman—*Annals of Surgery*, 1914, LIX., 884-890.
[2] Fowler—*Med. Rec.*, 1893, XLIV., 838-839.
[3] De Lorme—*Seventh Congress de Chir.*, 1893, Paris.
[4] Ransohoff—*Annals of Surgery*, 1906, XLIII., 502-511.

Reviews.

PYORRHŒA.

From the well-known press of W. B. Saunders Company comes an interesting and valuable book, "Alveolo-Dental Pyorrhea,"[1] by Bass and Johns, of the Tulane Medical College, U.S.A.

This almost universal disease has, except in advanced cases, received scant attention from physicians, yet, because of its intractable character and its scarcely realized, yet definite, effects in causing obscure anæmias, various types of indigestion, etc., it should rank as one of the most important in minor, if not major, medicine.

Osler says that if a visiting card be passed between the lower incisors of any ordinary individual in the early twenties, the débris so collected has a distinct, cheesy odour, due to the activity of micro-organisms permanently infecting the gums and tooth sockets. In many, the condition progresses, tartar accumulates, infection takes place, the authors assert, with *Entamoeba buccalis*, the peridental membrane is attacked, the gum and bony socket retract or are destroyed, and the roots of the teeth laid bare. Pressure on the gums, which bleed readily, causes pus to well up from the sockets. The authors estimate this in amount at not less than eight gallons of pus in ten years.

W. Hunter, in his monograph on pernicious anæmia, has pointed out the widespread effects of such oral sepsis. The diagnosis of cancer of the stomach, and liver has been made in conditions which cleared up after attention has been given to an existing pyorrhœa.

Incidentally, we hardly agree with the author's substitution of alveolo-dental for alveolar, seeing that the dental or tooth side is of little or no importance.

The monograph deals with the whole problem, details the microscopical methods for identifying the causal organism, the *Entamoeba buccalis*, and gives details of the effective treatment with emetine (internally by hypodermic injection or by mouth, and locally).

Prophylaxis by the maintenance of a clean mouth forms a most valuable chapter. Injury to the gums must be avoided. They would therefore ban the toothpick, dental floss, and the stiff toothbrush. Once a day the use of a fine bristle brush or soft gauze or cloth, movement being made from gum to tooth edge, should suffice to remove débris. This procedure agrees with Hunter's method of performing the toilet of the mouth and gums with a swab on a probe or artery forceps, soaked in 1 in 100 carbolic acid solution.

Toothpaste they do not advise, but advocate strongly the use of a dilute solution of emetine as a mouthwash. The common drinking cup, exchange of food, kissing, putting articles into the mouth, eating with unclean hands, spitting, etc., are all objected to as possibly conveying infection. Although occasional failure is acknowledged, the use of emetine, together with dental surgery, appears most hopeful in dealing with this difficult and annoying disease.

Considering its almost universal prevalence (it is not uncommon in medical men themselves), this book can be heartily recommended for the medical practitioner's library. The print, illustrations and "get up" generally are unexceptionable.

[1] Alveolo-Dental Pyorrhea, by Charles C. Bass, M.D., and Foster Johns, M.D., 1915. Philadelphia and London: W. B. Saunders Company; Melbourne: James Little; 8vo., pp. 167, with 42 illustrations. Price (cloth), 12s.

FRACTURES.

C. L. Scudder's book on the treatment of fractures[1] is a complete work on the subject, and is a most practical guide to practitioners in the treatment of cases, to medical jurists in giving evidence as experts, and to the advisers of companies who indemnify firms under the Workmen's Compensation or Employers' Liability Acts.

In the author's preface to the eighth edition, note has been made of the fact that "the application of the principle of autogenous bone-graft in delayed union and non-union is the greatest advance in the treatment of fractures," yet there does not appear to be any part of the work devoted to this aspect of the matter. It is likely that the author is awaiting the result of a good trial of these methods.

Gunshot fractures, Röntgen rays, the employment of plaster of Paris and the ambulation treatment of fractures are dealt with in an excellent manner in separate chapters. All these aspects of the subject are particularly interesting at the present time, especially to the army surgeon The use of plaster of Paris has found most favour in America, although Cabot's wire splint seems to be very popular. The old principles in Thomas's splint, which have recently received the strong advocacy of Mr. Robt. Jones, of Liverpool, is especially referred to in the chapter on ambulatory treatment.

The operative treatment of fractures is dealt with, but for particular details it would be better to refer to works on operative surgery or to monographs on the subject.

The work can be recommended on the score of completeness. It will be found useful as a working text-book, and as a book of reference for students. General practitioners will do well to give it a place on the shelves of their libraries.

[1] The Treatment of Fractures, with Notes Upon a Few Common Dislocations, by Charles Locke Scudder, M.D.; 1915. Philadelphia and London: W. B. Saunders Company; 8vo., pp. 734, 1057 illustrations. Price, £1 6s. 6d.

A MEMORIAL TABLET TO THE LATE CAPTAIN BRIAN C. A. POCKLEY.

A tablet in memory of the late Captain Brian C. A. Pockley was unveiled at the Sydney Hospital on December 22, 1915, by Dr. Ralph Worrall, on behalf of the members of the honorary medical staff. There was a large gathering, including Dr. Antill Pockley, Dr. Guy Antill Pockley, several relatives of our lamented colleague, Lieutenant-Colonel G. Lane Mullins, the members of the staff of the Sydney Hospital, and many others. The tablet bears the legend:—

Deo; Patriae; Tibi.

In Memory of
Brian Colden Antill Pockley, M.B., Ch.M.,
Captain, A.A.M.C., First Australian Expeditionary Forces; Resident Medical Officer, Sydney Hospital.
Killed in Action at Kaba Kaul, New Britain, September 11, 1914.
He died through giving to a wounded comrade the badge protecting his own life.

Dr. Worrall, in an appropriate speech, sketched his career, and spoke in glowing terms of his high qualities, both as a practitioner and as a man. He then recalled the events which led to his untimely death, and paid a very high tribute to his splendid disregard for self and solicitude for the safety of others. "A death like this," he said, "was a triumph in which the love of one's country and the love of one's comrades overshadowed all thought of one's self." Before closing, he made a suitable reference to the late Drs. Muir Smith, Eric Giblin and Arthur Verge, all of whom have died for their country.

Mr. S. E. Lees spoke on behalf of the Board of Directors.

The Medical Journal of Australia.

SATURDAY, JANUARY 1, 1916.

In Memoriam.

There is a time for taking stock of the present; another for casting furtive glances into the future and endeavouring to penetrate the thick shroud which envelopes to-morrow; and yet a third for pausing to look back. As a new year is begun, it is profitable to regard the preceding twelve months in an essay to gather fragments from its history which may teach, guide or warn us. A retrospect may be a solemn duty, like a last rite, before the old year in finally buried and the remains of what was are hidden for all time from view. On the first day of 1916, we look back on close on sixteen months of devastation and bloodshed, of an inexorable struggle against a foe, strong, determined and desperate, trained in arms and prepared to use any means to gain a point, of sacrifices and deeds of heroism. These months have witnessed a thinning of our ranks, but who can tell how many more will fall before the sword of the Empire can be returned to its sheath. As the year changes its cypher, we would fain do homage to those who have given their lives for our country, and if we then turn from the dear dead to the living, we know that time cannot dim the memory nor detract from the honour they have earned. The list of those who have fallen and who have died of sickness while on active service is a long one, and contains names of men of sterling qualities and great promise. There were Pockley, Muir Smith, Mathison, Scot Skirving, Campbell, Levi, Verge, Giblin, Richards, Luther, Howitt, Langley, Leonard Wright, Rothera, Fairley and Buchanan. They are men of whom Australia and the medical profession may well be proud; they gave their lives in the service of their country.

PROGRESS OF MEDICINE IN 1915.

Science is fitful. Its progress depends on many obvious and not a few less evident factors. With the disorganization of the whole world in the colossal struggle against military oppression, scientists, like others, have pushed aside their usual vocations to join the vast armies in the West and in the East. The number of medical men serving with the colours suggests that it is highly improbable that material advance will be made in medical science during the continuation of the war. Progress, however, is not entirely dependent upon opportunity, and may evolve in an unexpected manner, and in an unexpected place. The record of the year 1915 contains achievements largely connected with military surgery and military medicine, but some advance has been made in other branches of practice. Much of the best work completed during the year has been rather in the nature of the application of established principles than the discovery of new facts and new methods. In the case of the prophylaxis of enteric fever for example, inoculation has been practised on a scale hitherto undreamed of. Some time must elapse before it will be possible to measure the true value of this form of vaccination undertaken under the conditions obtaining in modern warfare. It is probable that six or seven million men have been inoculated against enteric fever. Judging from the reports available it would appear that the protective power of this vaccination has been responsible for the extraordinary low incidence and mortality of this disease among the combatant troops.

Some extremely important laboratory work in connexion with gaseous gangrene has been carried out by the workers at the Pasteur Institute of Paris. The bacteriology and pathology of wound infection has been advanced by these researches, and a still further advance has emanated from the fertile brain of Almroth Wright.

The duel between the advocates of strong antiseptics and the adversaries of chemical bactericides has been continued, and has not yet reached that stage which would justify an authoritative announcement. The introduction of compounds of hypochlorous and boric acids may be regarded as an important advance in antiseptic treatment. The bacteriological foundation for the use of this so-called

new antiseptic appears to be quite sound. In calmer moments, when the statistics of the results of treatment of infected wounds are available and can be analysed by those who have had personal experience, it will be possible to weigh this matter impartially, and to ascertain which method yields the best results under the conditions obtaining in the field. In regard to the treatment of injuries produced by bullets or shrapnel, no new principle has been evolved. The experience of the civil surgeon has been utilized, and his methods adapted to the unfavourable conditions following these injuries. On the other hand, a number of highly ingenious mechanical appliances have been devised and have been found of practical value. An exhibition of many of the splints and attachments in use in France has been organized by the Royal Society of Medicine of London.

In regard to cranial and cerebral surgery, the record of 1915 has been one of extended experience and not of innovations. It is, however, noticeable that the conditions under which cranial and spinal surgery has been practised differs *in toto* from that practised in civil life. The complications of sepsis and of extensive comminution of bones and soft tissues create a new problem for the surgeon. These subjects have been dealt with in various articles during the course of the year, and from these articles it is apparent that the surgeon has utilized laudible ingenuity in overcoming his difficulties.

In orthopædic surgery the most striking advance recorded is in connexion with the teaching of Robert Jones, which is gaining a firmer hold on orthopædic surgeons in England. His researches in connexion with arthritic deformities have increased our knowledge to a considerable extent. In a similar manner it may be said that the work of Eric Pritchard on the causation of rickets is an advance in medical pædiatrics. Pritchard has demonstrated that rickets is in effect an acidosis resulting from the imperfect assimilation of food-stuffs, while this defective metabolism originates in a faulty method of feeding and in the effect of unhygienic surroundings.

The work of Harvey Sutton on hypoplasia of teeth is of importance, and deserves mention in this place. Closely allied to the subject of metabolic diseases of children is that of enteritis in infants. The most important step onward in this connexion is the introduction of home nursing of these little patients in the place of hospital treatment.

In the realm of gynæcology very little has been achieved. Some negative points may be registered, since the removal of a faulty method is as important an advance as the introduction of a new one. The practice of introducing oil and other substances into the peritoneal cavity for the purpose of preventing the formation of adhesions has been shown by Sweet, Chaney and Wilson to be dangerous as well as ineffectual. Percy's method of dealing with cervical carcinoma by heat sufficient to coagulate the cytoplasm without carbonizing the tissues has been given an extensive trial, and is well spoken of by a large number of operators. It is impossible at present to speak definitely on this point, because sufficient time has not yet elapsed to enable gynæcologists to record the end results of the treatment. More complete recognition has been given of the influence of the endocrinic glands on the function of the genital system than in previous years. This important fact has influenced writers and operators not only in gynæcology but also in other branches of medicine, as is evidenced by the excellent article published by John Flynn on varicocele in this Journal. C. B. Mayo has contributed to our knowledge in connexion with uterine prolapse. The teaching in his clinic is based on his conception of the mechanism of the various displacements Unanimity in regard to the correct method of dealing with retro-displacements has not been attained. The advocates of Gilliam's procedure have probably gained the ascendancy during the course of the year.

Some highly important work has been undertaken in connexion with dysentery by Remlinger and others, and our knowledge of this affection has been materially advanced thereby. A new bacillus, which differs from the bacilli of Shiga, Flexner and Strong, has been isolated in cases met with in the trenches. This organism is probably related to the bacillus Y of His. Much work has been initiated in connexion with the epidemics of cerebro-spinal meningitis. The results of observations and re-

search are not at present of a striking nature, nor has the application of the knowledge gained led to any definite practical advancement.

It will be of use to examine in greater detail in subsequent issues some of the work undertaken during the year. In the majority of cases the lessons to be learned are not new, but are none the less valuable. The effect of experience cannot be seen in the course of one year, but by registering each step, and subjecting each observation to a severe criticism, progress can be recognized and appreciated.

THE PINEAL ORGANS OF TUATARA.

The anatomy and physiology of the pineal eye of sphenodon possess considerable interest to scientists in the Commonwealth, and we therefore welcome the records of a careful investigation undertaken by Professor Arthur Dendy in London.[1] This worker obtained six male tuataras (*Sphenodon punctatus*) from New Zealand several years ago, and has continued his studies on embryos obtained from the same source. The pineal complex comprises the dorsal sac, the paraphysis, the pineal eye, the pineal nerves, the pineal sac and parts of the brain with which the nerves are immediately connected. The dorsal sac arises from the arched epithelial roof of the third ventricle, between the *commissura aberrans* and the *commissura superior*. The paraphysis is a compound tubular gland with a short, upper, horizontal and a long, ascending limb. Its origin is similar to that of the choroid plexus. The pineal sac is the right hand member of the original pair of pineal outgrowths. The primary parietal vesicle arises from the roof of the forebrain, and later two vesicles are developed. The anterior vesicle gives rise to the pineal eye and the posterior to the pineal sac. The former is constricted off from the latter at an early stage, and usually lies to the left of the latter. The walls of the pineal sac contain sensory epithelial cells, ganglion cells, nerve fibres and neuroglia. The pineal eye is situated in the lower part of the parietal foramen, and is covered by a mass of semi-transparent tissue, spoken of as the parietal plug. The eye is obliquely conical, the base, representing the lens, is turned upwards and forwards, and the apex to which the nerve is attached is pointed downwards and backwards. The eye consists of a vesicle which has never been cupped by invagination. The part of the wall turned outwards forms the lens, while the rest forms the retina. The separation between these two parts is sharply defined. On the retina three layers can be distinguished; an outer layer, belonging to the radial or supporting fibres, an inner layer, belonging to the sense cells, and a middle layer of ganglion cells, with some nerve fibres. Pigment cells are also found among the sense cells and among the radial fibres. The lens is biconvex, and the nuclei of the central portion become oval, and are arranged at right angles to the mass of the lens. In the marginal zone the nuclei are rounded and irregularly arranged. Some of the lens cells form mucus, and discharge their contents into the vitreous.

We learn that the pineal eye of sphenodon is no longer at the summit of its career as a light percipient organ, but the indications of degeneration in structure are but slight, as compared with those exhibited by the degenerating lateral eyes of blind fish, such as *Lucifuga* and *Amblyopsis*. Prof. Dendy tells us that it is impossible to believe that an organ which retains so complex a histology is entirely functionless. Admitting that the pineal sense organs are dislocated members of a pair, there is no valid reason for not regarding them as serially homologous with the lateral eyes.

[1] *Trans. Royal Soc. of London*, Series B., Vol. 201, pp. 227-331.

DISINFECTION OF SWIMMING POOLS.

A consideration of the factors which lead to disease in the animal organism reveals the wide sphere of infection by microbes. Bacteria, mechanical injuries and chemical agencies account for the greater number of pathological phenomena. Since it was first recognized that bacteria lead to numerous diseased states much attention has been devoted to the paths by which these germs enter the human body. With the attainment of accurate knowledge about the ways in which microbes gain access to man, preventive medicine has become concerned with the means of stopping bacteria coming into contact with man. As information has accumulated concerning the life histories of germs, about their characters, and about their habits, it has been noted that many pathogenic bacteria live in association with man and are spread from person to person. At one time the air was regarded as the path through which the micro-organisms were pasesd. Later it was found that more direct contact was required for their transmission. Recently a careful scrutiny has been made of the part played by swimming baths and pools as a medium for carrying infective material from one person to another.[1] With ocean water, dilution is of such importance that, even when many persons bathe together, the number of bacteria reaching any person is small, and the ebb and flood of the tides sweep infective material twice daily from the bathing area. The high salinity of seawater is inimical to the multiplication of many kinds of germs. A number of species cannot live for more than a few hours in salt water, and most pathogenic germs are destroyed by oxidative processes occurring in the water. Different conditions are found in fresh water pools and baths. The volume of water is less, and the rate of flow is often too low to allow a rapid change of water. In enclosed baths the water may stand for some days without being changed.

Two methods have been suggested for diminishing the number of bacteria in such waters. In the first place the use of soap and a shower before swimming will diminish materially the number of germs and the quantity of organic matter introduced into

[1] S. J. Thomas, *Journ. Amer. Med. Association*, July and September, 1915.

the water. In the second place small quantities of copper sulphate have been found to exercise a distinct effect in lessening the number of germs in the fresh water. In some waters 1 part of copper sulphate in 20,000,000 of water will prevent any increase in the number of bacteria present in the water, while, in other waters, ten times this concentration is required. Greater concentrations should not be employed in open pools, as they would be harmful to fish and plant life. In municipal baths these considerations are of no importance. It is well to remember that bathing boxes are more important sources of infection than the water. Strict sanitary cleanliness should be enforced in regard to all parts with which the person and clothes of the bather come into contact.

THE NEW PHARMACOPŒIA.

On January 1, 1916, the British Pharmacopœia, 1914, comes into force in Queensland and in South Australia. There will be no official announcement to the members of the medical profession, and for this reason some difficulty may be anticipated, unless the attention of our readers is directed to this important change. If it is wished that the old preparations be used, practitioners must mark their prescriptions "To be dispensed in accordance with the British Pharmacopœia, 1898." Unless a prescription be so marked, the chemist will be bound to use the formulæ of the new edition. In the case of tincture of strophanthus, the patient would get four times the amount of active principle. The new tincture of opium is about one-third stronger, and the compound tincture of camphor is also increased in strength, while the new tinctures of digitalis and of nux vomica are weaker. It is apparent that medical practitioners should study the changes with care.

In this connexion it appears that a reform is needed in regard to hospital pharmacopœias. For example, the Adelaide Hospital Pharmacopœia in use is compiled according to the 1898 edition. Students have to learn the 1914 edition at the University, and get into the habit of prescribing metric doses, while, when they work in the wards, they have to familiarize themselves with the old preparations, and with minims and grains. Medical students have quite enough to do within the short time of the curriculum without this unnecessary and useless duplication. Every hospital pharmacopœia should be revised to bring it into line with the 1914 edition of the B.P.

It is with great regret that we have to announce the death of Dr. J. D. Buchanan, which took place from dysentery, in Heliopolis. A short account of his career will appear in next week's issue.

Naval and Military.

The Department for Defence has approached the Councils of several of the Branches of the British Medical Association in the Commonwealth, asking that the members be circularized, more especially in the suburban and country districts, in order that arrangements may be made to liberate practitioners for service in camps. It is suggested that practitioners should offer their services for duty for periods of three months. By means of a rota, additional medical practitioners might be secured for camp duty in this way. Difficulty appears to have been experienced in the No. 1 Military District, since the call had been made to the practitioners in the Casino area for men to take on duty in the Brisbane Camp.

The permanent medical officers in camp and in the field will be required to attain an increased degree of efficiency, and the Principal Medical Officers have been notified that special training must be given, in order that these officers may understand their duties thoroughly. The Medical Officers will be required to issue instructions to the Combatant Officers in regard to the sanitation of camps, trenches and other areas, and also in regard to the health of troops. Should these instructions be neglected, the consequences must be borne by the Combatant Officers.

The care of the health of troops while in the Commonwealth will have precedence over all considerations connected with the training and discipline of the men.

The following notice has appeared in the Commonwealth of Australia *Gazette*, No. 157, under date of December 16, 1915:—

Army Medical Corps.

To be Lieutenant-Colonel (Honorary Colonel)—
Lieutenant-Colonel (temporary Colonel) A. E. Shepherd, Deputy Director-General, Medical Services, with seniority as from 6th August, 1915. Dated 28th December, 1915.

To be Lieutenant-Colonel (with pay of Captain)—
Honorary Lieutenant-Colonel L. W. Bickle, Retired List. Dated 2nd November, 1915.

To be Captains—
Captain H. Z. Stephens, Australian Army Medical Corps, and Captain (provisional) N. K. Robertson, Australian Army Medical Corps. Dated 11th October, 1915.
Captain (provisional) J. C. Douglas, Australian Army Medical Corps. Dated 23rd October, 1915.
Captain (provisional) A. C. Arnold, Australian Army Medical Corps. Dated 2nd November, 1915.
Frederic Maurice Purchas and Cyrus Retallach. Dated 30th September, 1915.
Idris Morgan, Charles Cosgrove, Gordon Bradley Lowe, and Wilmot Fenwick. Dated 11th October, 1915.
Laurence Edward Ellis and James Gray. Dated 21st October, 1915.
Robert Miles Fletcher Cameron. Dated 1st November, 1915.
Charles Michael O'Halloran. Dated 2nd November, 1915.

Appointments Terminated.

The appointment of Major J. A. G. Hamilton is terminated. Dated 30th November, 1915.
The appointment of Captain D. G. Robertson is terminated. Dated 6th December, 1915.

The following notice has appeared in the Commonwealth of Australia *Gazette*, under date of December 9, 1915:—

To be Lieutenant-Colonel—
Honorary Captain H. S. Stacy, Australian Army Medical Corps Reserve.

To be Majors—
Captain J. W. Browne, Australian Army Medical Corps.
William Sidney Sweet.

To be Captains—
Captain (provisional) R. F. Craig, Australian Army Medical Corps.
Honorary Captain E. M. Allester, Australian Army Medical Corps Reserve.
James Vine Pearce.
Archibald John Collins.

Proceedings of the Australasian Medical Boards.

NEW SOUTH WALES.

A Disciplinary Case.

(*Continued from page* 609.)

After Mr. Breckenridge had made another unsuccessful application to have the case adjourned for a week, he called the respondent, Dr. Edgar Robert St. John Caro. Witness stated that he had been carrying on the practice

of his profession in Sydney for 18 or 19 years. He was registered as a duly qualified medical practitioner in Sydney 19 years ago. He had practised in Macquarie Street during the latter portion of the period. He had a private hospital in North Sydney. He was not a member of the British Medical Association. He specialized in diseases of the eye, ear, nose and throat. He had attained reasonable practice in these branches of his profession.

He denied that there was any agreement between him and any man to "'tout' for business, if I understand the meaning of the word 'tout'." He did not employ men in that respect.

Referring to the evidence of the boy who stayed in the little room on the roof, he stated that the mother had come to him with the suggestion that he was suffering from consumption. He did not consider that he was suffering from tuberculosis. He had the sputum analysed by T. I. Wallas, who reported that there was no tubercle bacilli, but that it contained pneumococci and pus cells. In the interests of the other patients he placed the boy in a little room, and arranged that his mother should sleep in the next room, It was against his wish that the mother slept in the same bed. The boy's temperature became practically normal, the expectoration almost ceased, and he became very much better. Later he had an attack of diarrhœa, due to "gorging his food." The mother decided to leave.

In regard to the man John Allen, witness stated that a knock came at his door, and he stepped out and saw a man named Thomas, with another man, who was a stranger to him. Thomas told him that the man wished to consult him about his eyes. The patient was sent into a waiting room. When Mr. Kench came, he asked him what he gave Thomas for bringing patients to him. Witness told him that he gave Thomas a pound or two, or more, as he thought fit. There was no agreement between them. Questioned as to how the payments first started, Dr. Caro stated that after he had been practising for some time in Sydney, Thomas came to his surgery and told him that he had brought a patient from another doctor. Witness examined the patient, and arranged to attend him. He thanked Thomas for his courtesy, and, on the following day, Thomas called and said to him that he had brought him a good patient, and suggested that that was worth something. Witness replied, "Well, if you put it that way, I have never done anything of the kind before, but you were the one who brought the patient, and I will make you a small present." Thomas then suggested an agreement with him for a regular commission, but he refused to do this. He said that if he chose voluntarily to bring patients to him and ask for a present "I would leave it in my own hands as to the size of the present from time to time as I thought fit." Thomas had told him that he had a definite arrangement with another doctor.

Dr. Caro stated that doctors accepted presents for sending patients to each other. He could not say if this was a practice. He had not had much experience of the British Medical Association, as he was not a member of it. He thought the system was widespread. He could not swear to it, but he thought that country practitioners were rewarded in some way when they sent a patient to a city specialist.

Witness had attended Thomas's wife and child, as well as Thomas himself. The wife was suffering from an incurable complaint, but she had very much better health. The child was well. Thomas had expressed his gratitude and satisfaction. In regard to Cherry, his child had valvular heart trouble, and was suffering from gastritis, and, after three days' treatment, it was well enough to play. Cherry expressed his gratitude.

There was no arrangement between Cherry and himself; Cherry started sending him patients, and suggested that he should get some return.

He thought that about 1,000 patients passed through his hands in the course of twelve months. A considerable number of them came to him without being introduced by men like Thomas and Cherry. He estimated that he had given presents to doctors and others in respect of about 20 or 25 patients a year. He did not regard the giving of presents as unprofessional, and saw no evil in it whatever. He had not had any warning that it was not in order. The British Medical Association had not made any official complaint. He considered that the British Medical Association had nothing to do with it.

He was questioned if he had ever been asked to join the British Medical Association, and replied that he was invited in New Zealand, and when he applied to have his name taken off the black list the Secretary suggested that he should apply to be admitted in New South Wales. He refused.

Mr. Breckenridge: "Have you any grounds for believing that there is any professional action against you by any considerable number of practitioners here?"

Witness: "It is a generally conceded matter, I believe, by the British Medical Association, that once it has black-listed a man, he is an *anathema marantha*. I have been refused consultations by B.M.A. men, to their shame, when I have called them at midnight to help me save a dying man from hæmorrhage, though I laid the matter before them clearly that the man was dying, and I could save the life if I had assistance. Thank heaven there was one B.M.A. man who was man enough to come. For 20 years I have been refused consultations by the British Medical Association men."

At this stage Mr. Breckenridge renewed his application that the matter should not be continued further that afternoon.

Mr. Robison obtained leave to start his cross-examination.

Witness stated that he had not looked for the report of the analysis of the boy's sputum. In regard to the question of presents, he considered that a reputable medical man should pay a man to bring him patients. For 15 years he had never dreamed of it, but he found himself so treated by other professional men that he lowered his high standard to the equivalent of what he considered was the standard of the other professional men in Sydney. When he lowered his standard he knew of other medical men who were paying commissions for having patients introduced to them. He maintained that there was a distinction between giving a man a present in money after he had introduced a patient, and paying him for bringing that patient to him. In the one case there was a definite arrangement and a request; in the other there was none.

Mr. Robison asked witness a number of questions, in order to ascertain what considerations guided him in determining the amount of the present. Witness admitted that he was guided to some extent by the fee paid by the patient. He could not remember that he had given Thomas £9 and Cherry £10 for one patient. He had not admitted to Mr. Kench that there were three, four or five men acting in the same way as Thomas. Moreover, it was not sworn evidence. Asked whether he made a difference between sworn evidence and what he said outside the box, he replied, "No, certainly not." He then admitted that he had given presents to men named Daly and Keys. There was no agreement, but in each case the present was given. He maintained that there was no verbal understanding.

A patient of his named Probst, an old man of 87, was being looked after by a man named King. He believed that the man's estate was put into chancery, because he was too old and infirm to look after it. Just before this he had witnessed his mark for four cheques for £50 each. He maintained that the man was absolutely sane, and that he had questioned him carefully before he witnessed the signature. The man was blind and nearly stone deaf, but witness would not admit that he was filthy or covered with vermin. Probst had denied putting his mark to the last cheque. He, Dr. Caro, got £50 out of the £200 for an operation on Probst, and one on King.

At this stage the case was adjourned.

(To be Continued.)

The following have been registered under the provisions of the "Medical Practitioners Act, 1912-1915" as duly qualified medical practitioners:—

Hunter, John George, M.B., 1915, Univ. Sydney.

Lance, Arnold Llewelyn, M.B., M.S., 1915, Univ. Sydney.

QUEENSLAND.

The following have been registered under the provisions of the "Medical Act of 1867" as duly qualified medical practitioners:—

Tunstall, Charles Augustus, Chillagoe, M.D., Ch.M., 1891, McGill Univ.

Additional Qualifications.

Millett, William Leonard, Mareeba, Ch.M., Univ. Syd., 1915.

Priestley, Henry, Townsville, M.D., 1915, Univ. Syd.

Abstracts from Current Medical Literature.

DERMATOLOGY.

(1) The Pathogenesis of the Tuberculides.

In a paper entitled *Etudes sur la Réinfection Tuberculeuse*, published in the *Annales de Médecine*, July 15, 1914, E. Rist and J. Rolland put forward a new hypothesis in connexion with the tuberculides, which demands the attention of dermatologists. The subject is reviewed and discussed by J. H. Sequeira (*Brit. Journ. of Dermatology*, October, 1915). The term tuberculides was first suggested by Darier to include the simplest form, viz., *lichen scrofulosus*, the bilateral, symmetrical papular form, which heals with the formation of a permanent cicatrix, the papulo-necrotic form and lastly the form spoken of as *erythema induratum*. The common characteristics are:—(i.) the patient is a tuberculous subject, and reacts to tuberculin; (ii) the eruptions are usually bilaterally symmetrical; (iii.) the histology of the lesions suggests tuberculosis; (iv.) the tendency in the majority of cases is to spontaneous cure; (v.) the bacillus of Koch is almost invariably absent; and (vi.) inoculation in guinea-pigs is rarely successful. Rist and Rolland have experimented with guinea-pigs already infected with tubercle bacilli of both human and bovine origin, by giving intradermic injections of both varieties. In some cases the phenomenon of Koch was produced, while in others different results were observed. A primary inoculation of tubercle bacilli developes after from 9 to 12 days or even longer. After massive doses given into the dermis œdema may be seen in two days. A nodule forms on the fourth day, and after a few further days the abdominal chancre developes. The lesion caused by reinoculation starts on the first day with œdema, which is followed by a purple ecchymosis. An indurated brown plaque follows, and at the end of five or six days a slough separates. Cicatrization proceeds rapidly after this. Excision of the lesions of reinoculation is followed by rapid and complete cicatrization, while removal of the lesion of primary inoculation is always followed by a caseous chancre. The primary lesions are characterized by true polynuclear abscesses with caseation; the chancres consist of a subacute inflammation without giant cells or epitheloid cells. Reinoculation lesions differ from the primary lesions by the extreme diffusion through the dermis and hypoderm. In the primary, the bacilli are present often in large numbers; in the reinoculation they are usually absent. Everything points to a rapid destruction of the bacilli introduced. The explanation which Rist and Rolland give for these phenomena, and at the same time for those of the tuberculides, is that a condition of allergy is produced. At one and the same time, a hypersensibility determines the immediate reaction, while an immunity accelerates the cure. They show that tuberculides are spontaneous examples of Koch's phenomenon. It is therefore unnecessary to explain the genesis of these skin lesions by the circulating toxins or dead bacilli, or to suppose that the microbic emboli to which they are evidently due are composed of bacilli in an attenuated state, or of low virulence. Tuberculides are caused by an endogenous reinoculation.

(2) Gastroptosis.

Hertz (*Archives of Radiology and Electrotherapy*, October, 1915) shows how insufficient and incomplete the diagnosis of gastroptosis is. He points out that it is essential to know whether it is orthostatic only, or if it be complete, and whether or not it causes duodenal kinking. He divides these cases into (*a*) orthostatic gastroptosis, where the lesser curvature in the erect position is below the umbilicus, but the greater curvature above the navel in the horizontal position; and (*b*) complete gastroptosis where the greater curvature is below this landmark in the horizontal position. It is essential to note the position of the duodenum as well; if the upper extremity of the duodenum is not at least one inch above the umbilicus, duodenal ptosis is present as well. Next it is necessary to note the evacuation of the meal from the stomach. If the duodenum drops with the stomach, the passage of the meal out of the stomach and duodenum is usually normal in rate; if the duodenum has not dropped there is usually delay in the passage of the meal through the duodenum. At times the greater part of the stomach drops to the left side of the spine, so that, with the patient flat on his back, nothing passes into the duodenum; but the food passes readily into and through the duodenum if he lies on his right side. To decide whether the gastric stasis is obstructive or due merely to the ptosis, the patient should be placed, after the ingestion of a second opaque meal, on his right side for six hours, and then examined. If the delay, previously found, was due to ptosis, the stomach will have evacuated its contents; if, however, obstructive in nature, a residue will be detected. He then goes on to describe the "orthostatic hour glass stomach," which, of course, vanishes in the recumbent position. The effect of the voluntary contraction of the abdominal muscles, in the erect position on the position of the stomach, gives a good guide as to the prognosis. He holds that in treatment the patient should be placed after his meals in the position in which the examination has shown the stomach to empty most efficiently. This is usually the right recumbent position. If abdominal support is ordered, an opaque meal examination should be made to determine whether this support is efficient or not.

(3) Folliculosis Decalvans et Lichen Spinulosus.

Wallace Beatty describes a case in which the eruption on the scalp suggested a *folliculitis decalvans*, while that on the trunk was very like *lichen spinulosus* of children (*Brit. Journ. of Dermatology*, September, 1915). The patient was a woman aged 43 years. Ten years previously her hair came out, and baldness resulted. The skin was clean, and itching was complained of at times. The eruption on the body showed itself first in February, 1915. The condition of the scalp was as follows:—There was a cicatricial aspect. Small islets of follicular prominences were scattered about. These were due to dry, horny matter, with short hairs forming a collarette. Follicular papules were found on the front of the neck. The same form of lesions were seen over the mastoid and on the skin of the tragus; whereas minute papular close-set lesions were found on the helix. Groups of follicular papules with projecting spines were scattered over the front and sides of the thorax and axillary regions. The skin of the posterior fold of the axillæ was densely affected, and presented a kind of mosaic or lichenization. The skin of the shoulders and upper extremities resembled in miniature the outer surface of a pineapple. In discussing the case the author comes to the conclusion that the affection was a combination of atrophic baldness of the scalp and *lichen spinulosus*, Lassauer's and Graham Little's syndrome. Dr. John Speares investigated the pathological anatomy of the lesions. He was able to exclude syphilis as a causal agent, and he discovered *corps ronds*, described by Darier in cases of *psorospermose folliculaire végétante*.

(4) Röntgen Signs of Gastro-Jejunal Ulcer.

R. W. Carman (*Amer. Journ. of Röntg.*, May, 1915) deals with the radiological detection of gastro-jejunal ulcer. He considers that the use of a continuous suture of unabsorbable material, such as silk or linen, is an important ætiological factor. The nature of the ulcer in these cases does not permit the visualization of a niche, as in penetrating or perforating gastric ulcers. The X-ray signs of such an ulcer are deformity in the stomach about the stoma, narrowing and deformity of the jejunum, diminished patency of the stoma, dilatation of the stomach, retention from the six-hour meal, hyperperistalsis, and dilatation of the duodenum. He points out that deformity of the stoma must be differentiated from the dimpling usually noticeable in these cases, and especially from artificial deformity, caused by pressing the abdominal wall with the casette, so hard that the stomach is constricted against the vertebral column, opposite which the stoma usually lies. Another sign on which importance is laid is the lessened amount of opaque meal passing through the stoma.

BIOLOGICAL CHEMISTRY.

(5) Coagulation of Ascitic Fluids.

M. Lisbonne has made some new observations on the clotting of fluids from the sac of a hydrocele or from the abdominal cavity (*C.R. Soc. Biol.*, Paris, July, 1915). These liquids do not clot spontaneously, even when they contain fibrinogen, but are coagulated by the addition of fresh serum, leucocytes or extracts of the spleen or of lymphatic glands. Such fluids are usually regarded as lacking in thrombin, thrombokinase or other substances necessary for their coagulation. These fluids coagulate after the addition of a few drops of chloroform to 50 c.cm. of fluid. The process occurs rapidly at the end of two to four minutes. A careful study of the different conditions under which this coagulation occurs shows that it differs in no way from the classical phenomenon. Ether possesses the action to a slight degree, but substances like acetone, formaldehyde and alcohol are devoid of effect. In seeking an explanation for this action, it was at first thought that the chloroform led to the dissolution of leucocytes. This explanation was proved to be erroneous, since the same coagulation is produced after filtration of the liquid through a Berkefeld filter. Various experiments have induced the author to conclude that chloroform possesses marked thromboplastic properties.

(6) Formation of Methane in Anaerobic Culture.

P. Mazé has investigated the little known fermentation characterized by the evolution of methane (*C.R. Soc. Biol.*, Paris, July, 1915). This process is due to a microbe closely similar to a sarcina which developes under strictly anaerobic conditions. Carbonic acid gas and methane in the proportions of one part of carbon dioxide to two of methane are the only gases evolved. When an organic liquid containing carobydrates is inoculated with manure or sewage, butyric fermentation sets in. Carbon dioxide and hydrogen are evolved. After some days or weeks a second evolution of gas occurs. This gas consists of methane and carbon dioxide. The hydrogen is diminished until it is no longer found. This fluid serves as a source for the organisms producing this fermentation. So far, the organisms have not been obtained in pure culture. These bacteria destroy the fixed and volatile fatty acids, alcohols and hydrogen. When a culture is inoculated with a liquid undergoing this fermentation, but heated to 70° C., butyric fermentation occurs, and the liquid contains, at the end of the process, lactic, butyric, acetic and valerianic acids and the alcohols corresponding to the three fatty acids. If the same culture medium is inoculated with the unheated fermenting liquid, these substances are removed during the fermentation. The author has found the formation of methane to be invariably accompanied by the appearance of pseudo-sarcinæ, and he concludes that no other organism produces this gas. He has studied with care the formation of methane from acetone by the organisms under anaerobic conditions. In the course of eight months the acetone has been completely and quantitatively converted into methane and carbon dioxide. Under some circumstances, small amounts of hydrogen are also produced. The author has prepared an artificial culture medium, containing pure substances in which the fermentation readily occurs.

(7) Detection of Bile in Urine.

G. D. Allen has tried to devise a quantitative method for the detection of bile in urine, by means of measurements of the surface tension (*Journ. Biological Chemistry*, October, 1915). Hay's test, based on the rate at which powdered sulphur sinks to the bottom of a test tube, is only useful for qualitative purposes. The interpretation of the rate at which the sulphur sinks is largely a matter of judgement. A simple, rapid means for counting the number of drops from a suitable stalagmometer was used to estimate the surface tension. In distilled water, 1.5 parts of sodium glycocholate in 100,000 parts of water lowers the surface about 4%. In urine, however, even with 1 part in 1,000 of urine, the figures for the surface tension vary from 60% to 70% of those for water. The surface tension of normal urine varies considerably, even in the same individual. It usually lies between 82% and 93%, water being 100%. In general, a high specific gravity is associated with a low surface tension. The surface tensions of solutions of the substances usually present in urine were measured. None of the normal constituents of urine have any considerable effect on the surface tension. The only other substance affecting the surface tension and occurring in urine is peptone. Acetone has little effect, but beta-oxybutyric acid has some slight action in lowering the surface tension. The surface tension of urine is markedly altered by changes in the acidity. The variations in the surface tension of normal urine are due to variations in its acidity. The author concludes that the stalagmometric readings do not furnish an accurate means for determining the amount of bile salts in urine. The stalagmometer gives a numerical result which is not dependent on the judgement of the operator. When the reaction of the sample is taken into account, together with the percentage surface tension, this method of estimating the amount of bile in the urine may be found of clinical value.

(8) Estimation of Glucose in Blood.

R. G. Pearce has made a critical study of two of the numerous methods introduced during the last few years for measuring the concentration of glucose in small quantities of human blood (*Journ. Biological Chemistry*, October, 1915). These methods are those devised by Bang and by Lewis and Benedict. He points out that the method of Bang can give quite inaccurate results, in consequence of slight variations in the technique. This tendency is so marked that it is necessary to do a series of determinations on each sample, in order to be certain that no mistake has been made. On this account, the time consumed in making the determinations is so large that the method becomes too tedious for clinical work. The method of Benedict and Lewis has given uniform satisfaction during a six months' trial. This method depends on the colour produced by heating together the solution of sugar, soda and a solution of picric acid, under standard conditions. The colour is then compared in a colorimeter with that of a standard solution of glucose treated in the same way. This method thus depends on the reaction advocated by Sir George Johnston. By using an autoclave in which the samples could be heated together under the same conditions, the author finds that as many as forty determinations can be made in one day.

(9) Metabolism of Creatine and Creatinine.

V. C. Meyers and M. S. Fine (*Journ. of Biological Chemistry*, July, 1915) have performed experiments to determine the relationship between creatin and creatinin in autolysing tissues. They have examined the conditions of the formation of creatinin in a solution of creatin and of creatin in a solution of creatinin. They found that both solutions undergo a slow change, leading to the formation of creatin or creatinin. They have estimated the rate of formation of these substances in autolysing muscle from the cat, fowl, rabbit and man. They have likewise estimated the changes in human blood. They conclude that creatinin is present in muscle tissue in higher concentration than in other tissues. They are of opinion that this observation suggests that muscle tissue is the site of the formation of creatinin. Since the creatin of the muscle tissue has a relatively constant concentration for the muscles of any species of animal, they assume that it is constant for an individual animal. They believe that creatin is converted into creatinin at a constant rate. They consider that the same reaction in the body will account for the constancy in the excretion of creatinin. Since the muscle creatin and the urinary creatinin are present in constant amounts, they consider that there must be a definite relation between the two substances. This would be equivalent to a daily conversion of creatin into creatinin of about two per cent. In fevers, there is a definite relationship between the rise in temperature and the excretion of creatinin, and a rise of temperature has a similar influence on the formation of creatinin in autolysis in vitro.

British Medical Association News.

SCIENTIFIC.

A meeting of the New South Wales Branch was held on December 17, 1915, at the B.M.A. Building, 30-34 Elizabeth Street, Sydney, Dr. George Armstrong (the President) in the chair.

Dr. J. G. Edwards demonstrated a skiagram, showing a *calculus* in the *sub-maxillary gland*. He read some notes on the case supplied by Dr. A. Brady. The patient was a man, aged 41 years, who was seen on September 5, 1915. He had a swelling under the ramus of the jaw, on the right side, about the size of a hen's egg. The swelling was very tender, and the patient had suffered a great deal of pain. He had had a similar attack some four months before. The swelling had subsided after seven days, during which time the patient rubbed in some ointment. Pus was seen exuding from the papilla of Wharton's duct. The anterior end of the duct was slit up on a probe, to provide a freer escape for the pus. A probe introduced along the duct met with a gritty substance, which was very elusive. At times it could not be felt at all. A skiagram was taken on September 11, 1915, and in the picture it could be seen very clearly that a calculus was present. On September 15, 1915, the patient was anæsthetized with ether by the open method, and the sub-maxillary gland was removed through an external excision. The gland was very hard. In its centre there was a cavity, which contained a small, spherical, smooth calculus, like a pearl from a lady's ring. The floor of the mouth was not incised. Unfortunately, the calculus had been mislaid at the hospital. The posterior end of Wharton's duct was sent to Dr. Edwards. It contained another calculus, which was broken up in an attempt to remove it without slitting open the duct from end to end. After this was done, all the fragments were removed, and a dilated and rounded pocket, in which it had rested, was discovered in the duct. This pocket admitted the tip of the index finger with a little pressure. Dr. Brady had expressed the opinion that the skiagram had been most useful in confirming the diagnosis. The skiagram was taken with the head tilted to the affected side, and the tube centred just above the left shoulder. The calculus was seen very clearly in the picture.

Dr. J. G. Edwards next demonstrated a skiagram, showing the presence of two *cervical ribs*. He had brought up this picture, because the subject of cervical rib had recently been dealt with exhaustively in *The Medical Journal of Australia*, by Dr. H. Darling. Cervical rib was of rare occurrence, and in his experience was more commonly double than single. One or both ribs were usually pointed. This was seen on the left side in the skiagram. In many cases submitted to examination on account of a suspected cervical rib, it was found that the transverse processes of the seventh cervical vertebra were unusually large and massive, or that the first rib had an abnormally high arch. In both these conditions symptoms similar to those produced by cervical rib were met with. It was generally believed that it was difficult to detect cervical rib. There were, however, two simple methods, which left no room for error. The first was by taking stereoscopic skiagrams. This was quite simple. The plate should be placed behind. When stereoscopic photographs had been taken, there could be no doubt as to the presence or absence of cervical rib. In the second method, a marker was placed over the anterior end of the first rib, and the patient was laid face downwards. The plate was inserted between the patient and the couch, and the tube was placed posteriorly over the first dorsal vertebra. As a rule, it was possible to distinguish between a first rib and a cervical rib when the skiagram was taken in this manner.

Dr. J. L. McKelvey pointed out that calculi in the submaxillary gland were very uncommon. He had only seen one case at the Royal Prince Alfred Hospital. The diagnosis of sarcoma was made in this case. Pus was seen issuing from the duct. He had seen one case of calculus in the duct. The hard resistance could be felt by the finger, but a probe could not be passed. He had never seen a case of cervical rib.

Dr. J. L. McKelvey and Professor D. Welsh demonstrated a specimen of *inflammatory stricture of the intestine*, simulating carcinoma of the pelvic colon. The specimen was taken from a female patient, aged 46. On October 23, 1915, the patient had been seized with sudden pain in the lower part of the abdomen, followed by vomiting. The pain was intense, colicky in character, and caused the patient to writhe. It was always directed toward the left side of the lower segment of the abdomen. It came on in spasms, with intervals of relief. Vomiting followed the first attack of pain, had been continuous, but was not stercoraceous. During the preceding twelve months the patient had frequently noticed blood in the stools, dark in colour and occasionally black. This was accompanied by mucus. She had been losing weight gradually. When admitted to hospital the pulse-rate was 100 and the temperature 99.4°. She was suffering from severe attacks of abdominal pain; was vomiting continuously, and her abdomen was greatly distended. There was slight abdominal tenderness, but no rigidity. A hard and nodular mass could be felt in Douglas's pouch *per vaginam* and *per rectum*. The mass was freely moveable. A Wassermann reaction was carried out with a negative result.

An iliac colostomy was performed. The mass was found to occupy the pelvic colon. Owing to the great distension of the colon, due to the obstruction, it was allowed to drain for some days before any attempt was made to remove the mass. On November 12, 1915, an incision was made through the left rectus sheath, about four inches in length. The muscle was then pulled outwards. When the abdominal cavity was opened, it was found that the omentum, small intestine, uterus and pelvic colon were matter together. An attempt was made to separate the adhesion, but foul-smelling, sero-purulent exudate escaped. It was thought that the perforation of a stercoraceous ulcer had occurred, and the abandoning of the operation was considered. On further investigation it was found that the mass in the colon, together with the adherent coils of small intestine, could be moved *en bloc*. The removal was undertaken, but not without difficulty, since the mesentery of the colon was greatly thickened, and contained pus between its layers, and also lumps as large as a walnut, which were taken for glands. The colon was removed down to the pelvic floor, and the upper end of the rectum was closed by overstitching. A permanent colostomy was left.

The pathological report issued by Professor Welsh was read. The condition was described as being of unusual interest. The colon had been extensively infected by some agent, which had caused a chronic dysenteric condition, resulting in some thickening, and ulceration of the mucosa, and much greater thickening, induration and contraction of the muscularis. The latter had formed a dense, narrow ring of cartilaganeous consistence, and had caused almost complete obstruction. The corresponding mesentery was swollen and hæmorrhagic, from an acute septic cellulitis. This probably spread from the ulcers. The swellings in the mesentery were not glands, but were inflammatory masses, similar to the condition found in the bowel wall. Had the colon not been removed, the patient might have gone on with a permanent colostomy for years. In the absence of a pathological report, the surgeon would have persuaded himself that the colostomy had prevented the spread of a malignant tumour. Cases of this kind were generally due to diverticulosis of the colon.

In demonstrating the specimen, Professor Welsh pointed out the marked similarity to carcinoma. He had never seen a specimen quite like it. At the point of obstruction, the mucus membrane was puckered. There were chronic, inflammatory changes, extending from the ulcers along the mucous membrane. At some distance below the stricture there was marked translucency of the membrane. The muscular coat in transverse section, at the level of the stricture, was transformed into a cartilaginoid ring by the inflammatory changes. Lower down there was less of this appearance and more acute inflammatory changes in the muscle. The inflammation had spread on to the mesentery, producing a definite adenitis, with hæmorrhagic changes. The masses could have been mistaken for malignant infiltration of glands.

Professor Welsh referred to a case of chronic or dysenteric colitis, which he had studied in the post-mortem room about the same time. The specimen which he obtained

was a typical example of the worm-eaten appearance met with in chronic colitis. There was a beginning of cartilaginoid thickening of the middle coat.

Dr. F. M. Blackwood and Professor D. Welsh demonstrated a specimen of *chronic mastitis simulating duct cancer*. The patient was a women, aged 47, whose menses had ceased twelve months before. She had suffered considerably from the symptoms of circulatory disturbance, flushing, etc., associated with the menopause. There was no history of an injury to the mamma. The patient was first seen eight months before. At that time there was a bloody, serous discharge from the nipple. There was no thickening or inflammation about the breast. The discharge came away on gentle pressure. On consultation, it was decided to leave the breast alone, and to watch developments. The patient was seen again six weeks ago. The discharge at this time was freer, and the breast was thickened and nodular. There was apparently an enlarged gland in the axilla. It was decided to remove the breast. The operation was carried out by Dr. Humphery. The patient made a good recovery.

Professor Welsh, in demonstrating the specimen, pointed out the extreme similarity between it and a duct cancer. The question of malignancy was raised on the detection of the blood-stained discharge from the nipple. The microscopical slides, both of the breast and of the axillary gland, proved the inflammatory nature of the condition. He was satisfied that the right thing had been done in removing the breast, since the risk of cancer developing at a later date was considerable. Professor Welsh referred to two specimens in the University Museum, which were typical examples of chronic interstitial mastitis and mammary carcinoma. It was difficult to explain in words the differences, but it was possible for a trained observer to distinguish these two conditions. The malignant growth was more solid, and the changes were not so fibrotic or patchy.

Dr. G. H. Abbott and Professor D. Welsh dealt with a case of *haemangioma of the mamma*. The patient was a female, aged 30. She was first seen on June 8, 1915, by Dr. Abbott. She had detected a swelling in her left breast ten months before. It had increased in size. On examination, the left breast was found to be about twice the size of the right one. The upper part was occupied by a moderately firm, but somewhat elastic swelling, which could not be differentiated sharply from the neighbouring mammary tissue. She did not complain of any pain, but had some discomfort from the increased size of the breast. Her general health appeared to be excellent. During the following three months the tumour increased somewhat rapidly in size. On September 10, 1915, an operation was performed at the Royal Prince Alfred Hospital. A hollow needle was first inserted into the swelling. Only a small quantity of blood was seen to issue from it. The breast was then removed, a number of large vessels being encountered and ligatured. The tumour was examined by Professor Welsh, and was found to be a hæmangioma. The patient was discharged on September 23, 1915.

Professor Welsh demonstrated the tumour, with microscopical sections. He pointed out that hæmangiomata might be regarded as being locally malignant.

Dr. Corlette stated that it was possible to distinguish between chronic interstitial mastitis and cancer of the breast clinically. On the other hand, he was emphatic that from the surgical point of view cases of mastitis should be treated as early as malignant cases. He thought it was very risky to leave a breast affected with mastitis. Practically every case became malignant in time. The only chance was to remove the breast before the malignant changes set in. Many surgeons held the opinion that some of these cases were actually malignant from the start. In connexion with Dr. Blackwood's case, he raised the question whether it was not an unwise thing to do to wait eight months before the operation was performed.

Dr. E. H. Binney thought that it would be a very useful thing if Professor Welsh or some other trained pathologist could be present in the operating theatre during the course of an operation. He recalled the practice introduced by Mr. C. B. Lockwood, of having rapid frozen sections cut before the surgeon proceeded to remove the tumour. Some surgeons had criticized this method adversely, on the ground that the information obtained was too indefinite to be of much use. He did not think that it was necessary, as suggested by Dr. Corlette, to perform so extensive an operation in the case of mastitis or hæmangioma as in malignant disease.

Dr. Corlette again spoke, and referred to a case of a young woman, aged 18 years, who had had a baby five months before. Ever since the confinement she had had trouble in the breast. When seen a few days before, there was retraction in the nipple, and the breast was adherent to the skin. During the removal of the breast, he had had a frozen section made, and the malignant nature of the tumour was demonstrated. He would have removed the whole breast, no matter what the pathological report might have been. He considered it risky to trust to youth or apparent association with lactation in differentiating inflammatory and malignant infections of the mamma.

Dr. F. Guy Griffiths considered that a surgeon who was prepared to remove every lump in a woman's breast would frequently find normal lactating tissue in the specimens removed. No doubt this was quite common. He asked Professor Welsh if he had an explanation to offer for the occurrence of chronic mastitis in the absence of injury in a nulliparous woman. He also asked whether Professor Welsh knew of a good description of chronic mastitis. He had searched the literature for one in vain. He considered that it was difficult to distinguish pericanicular fibroma from chronic interstitial mastitis.

Dr. W. F. Litchfield was of opinion that each case should be treated on its own merits. He cited a case of a woman in whose breast a hard mass was felt. She was sent to the Royal Prince Alfred Hospital, where the diagnosis of cancer was made. An incision was made, and a chronic abscess was found. The abscess was opened, but the breast was not disturbed.

Dr. S. Sheldon spoke of a breast which he had removed a short time before. It contained a simple hydatid growth. The breast was as hard as it could be. No one could have distinguished it clinically from a malignant tumour. He also referred to a case of multicystic disease of the breast. Each cyst was of the size of a small grape. There were no signs of glandular enlargement. He had removed the breast without removing any skin, and without opening up the axilla. He admitted that this procedure might be regarded as somewhat risky.

Dr. G. H. Abbott expressed his gratitude to Professor Welsh for demonstrating these valuable specimens. He was of opinion that breast tumours were often very puzzling, even after an exploratory incision had been made. He was in the habit of teaching his students to look at as many specimens as possible, in order that they might become familiar with the various appearances of these tumours. He did not think that the diagnosis and treatment of chronic mastitis was as simple as Dr. Corlette's remarks would lead one to believe. He agreed with Dr. Litchfield that each case should be dealt with on its own merits. If the surgeon suspected that the tumour was cancerous, he should do more than remove the breast.

Dr. Corlette interposed the remark that he had advocated the less radical operation for pre-cancerous conditions, and not for tumours of a definitely malignant nature.

Dr. Abbott, continuing, said that in the early stages the glands were not likely to be affected. Even if the tumour was not malignant, no great harm would be done if the breast were removed early. When the tumour was malignant, it should not be cut into, but should be removed intact. If it were distinctly benign, removal of the breast only would suffice. In doubtful cases he advised the surgeon to cut down upon the growth to ascertain its nature. If necessary, he could cut into it, but should there be any reason to suspect malignant disease, all the instruments used must be changed before the removal was proceeded with. In conclusion, Dr. Abbott suggested that an evening should be set aside for the discussion of breast tumour.

Dr. E. M. Humphery thought that from the patient's point of view, it was advisable to have one operation rather than two. He therefore disapproved of a preliminary exploration, with the removal of a small portion for patho-

logical examination. In the majority of cases of chronic mastitis, malignancy developed at a later date. In the case recorded by Dr. Blackwood, the glands were enlarged, but not malignant. It was, however, impossible to say what would happen to inflamed glands. His maxim was: when in doubt, clear out the axilla!

Dr. E. M. Humphery and Professor D. Welsh demonstrated a specimen of *congenital new growth of the heart*, with malformation in a new-born infant. Dr. Humphery stated that the patient was a female subject, who was born to all appearances normal and healthy at 5 a.m. on October 24, 1915. About a quarter of an hour after birth, the infant became slightly cyanosed, but it soon regained its natural colour, after its throat had been cleared, and it had been made to cry. At 5 a.m. on the following day Dr. Humphrey was sent for, because the infant had become blue, and the nurse thought that it was choking. He found it deeply cyanosed, with a very feeble pulse, and unconscious. The breathing was quite clear, but very light. It remained in the same condition until 5 p.m., when it died. The father was 28 years and the mother was 27 years of age. The father's mother had supernumerary little fingers on both hands. Dr. Humphery obtained permission to examine the chest. He found a tumour about three inches in diameter in the left ventricle of the heart about the middle of the septum. The tumour appeared to be encapsuled, and bulged markedly into the left ventricle. As it was obvious that the specimen was an unusual one, he removed the organ from the body, and handed it to Professor Welsh.

Professor Welsh pointed out that the specimen was of great interest, as the condition was very unusual. There were two growths. The first was attached to the interventricular septum, while the septum itself was incomplete. The second growth was situated in the left auricle, just above the mitral orifice. A clot had formed around this smaller growth. The larger growth had a small attachment. He was of opinion that the development of the mass had resulted in the arrest of development of the septum. He was not prepared to make a definite statement in regard to the nature of the growths. The cells were unnucleated and branching. Between the cells there was ill-defined interstitial tissue. The cells appeared to be degenerated muscle cells, while some were indistinguishable from sarcoma cells. The condition was a sort of myxœdematous one.

Dr. E. H. Binney suggested that it might be a myeloma of unstripped muscular tissue.

Dr. Litchfield stated that he had never seen anything like the specimen before. Under the low power, the tumour had the appearance of a glioma. Under the high power, however, the cells were elongated with definite striation, and there were fibres without nuclei. He agreed that the tissue was muscular. He expressed his indebtedness to Professor Welsh for having brought up the specimens and for having correlated the clinical aspects and the morbid anatomy of the various conditions.

Dr. T. W. Lipscomb and Professor Welsh demonstrated a specimen of a *subperitoneal fibro-myoma uteri* of unusual size. Dr. Lipscomb read some brief notes of the history of the case. The patient was an unmarried woman, aged 43 years. She had first noticed that her abdomen was increasing in size two years before. Menstruation had been normal up to four months before she was seen. The last four periods had been more profuse than usual; Dr. Lipscomb attributed this to the increasing size of the fibroid. She had lost weight during the preceding few months. The face had a typical "abdominal expression." An operation for the removal of the uterus was performed on November 25, 1915. The specimen was that of a nulliparous uterus, with an intramural myoma of the size of a tennis ball, and a large subperitoneal fibroid, together with the uterine adnexa still attached. One ovary was flattened out. The whole specimen weighed 11 lbs. two hours after its removal.

Professor Welsh pointed out the value of a proper method of demonstrating uterine growths. In the specimen under discussion, he had divided the uterus in the middle line, in order that the relation of the two tumours might be gauged. It was an instance of multiple fibro-myomata, and contained submucous, intramural and subperitoneal tumours. The fibroid of the size of a tennis ball protruded into the cavity, and was truly submucous. The other half of the specimen contained a very large fibroid tumour intramural in situation. The tumour was too large to be nourished satisfactorily, and had undergone necrotic changes in parts. There was a large overgrowth of fibrous tissue, with cyst-like nodules on the surface. In many places large veins were seen. The tumour was a very large one, but was not the largest he had dealt with.

In his reply, Professor Welsh expressed his gratitude to the members for the way in which they had responded to the stimulus of the specimens. He agreed that it would be extremely useful if a discussion on mammary tumours could be held. The collection at the University was too large to bring down, and he therefore suggested that the Branch should meet for the purpose in the Museum.

In reply to Dr. Corlette, he pointed out that there was no justification for the opinion held by some surgeons that some cases of mastitis were malignant from the beginning. There was no formation of new tissue in chronic interstitial mastitis, whereas in mammary carcinoma there was an epithelial neoplasm. Inflammatory growths frequently acted as a stimulus to epithelial and other cells, and led to the development of malignant overgrowth.

In regard to doubtful cases, he agreed with Dr. Blackwood's procedure. The surgeon's conscience was the best guide, but it must be remembered that more harm could be done by leaving a tumour than by removing it. If there was any doubt, the large radical operation should be performed. He pointed out that it was very easy to overlook a cancer in a breast. He thought that undue risk had been run in Dr. Blackwood's case, by leaving the breast alone for eight months. It was not Dr. Blackwood who recommended this course. He agreed that it would be very useful if a microscopical examination of every tumour could be made in the theatre before removal. For this purpose it would be necessary to have a proper equipment, and a man especially appointed for the purpose.

Replying to Dr. Griffiths, he was unable to suggest an explanation for the occurrence of the mastitis in Dr. Blackwood's case. There was, however, the deformed nipple, which suggested some chronic obstruction of the ducts, which might have been caused by bacteria. He did not know of a good description of chronic mastitis. Pericanicular fibroma was very closely related to mastitis.

In conclusion, he dealt with the risks of disseminating the growth of a malignant tumour, by cutting into it in the course of an operation. If the diagnosis could be made without this expedient, the patient would be subjected to far less risk. When the tumour was cut into and found to be malignant, the opening should be closed, and knives and other instruments rejected before the removal was proceeded with.

MEDICO-POLITICAL.

At a meeting of the Council of the Queensland Branch, held on December 17, 1915, it was resolved:—

> That the Council disapproves of any member of the Queensland Branch allowing his photograph to appear in the publication brought out by the Newspaper Cartoonists' Association of Queensland.

It was held that it would be unprofessional and undignified to allow a caricature and a short life history of a member of the profession to appear in the publication referred to, and that such an act would contravene the regulations relating to advertising.

The action taken by the Branch Council is in conformity with the action taken a few years ago by the Council of the New South Wales Branch under similar circumstances.

The following have been nominated for election to the New South Wales Branch:—

Dr. James S. Watson, Dudley.
Dr. Alan N. Yuille, Dubbo.
Dr. Robert Harvey Leeds, St. Andres College.

BELGIAN DOCTORS' RELIEF FUND.

QUEENSLAND.

The sum of £6 14s 6d has been contributed by members of the Queensland Branch to the Belgian Doctors' Relief Fund.

	£	s.	d.
Amount previously acknowledged	99	13	6

	£	s.	d.
Dr. E. E. Bourne, Brisbane (December contribution)	0	10	0
„ L. Cooper, Brisbane (December contribution)	2	0	0
„ A. C. Mackenzie, Mount Morgan (December contribution)	2	2	6
„ Turner, A. J., Brisbane (December contribution	2	2	0
Total	£106	8	0

Public Health.

THE HEALTH OF NEW SOUTH WALES.

The following notifications have been received by the Department of Public Health, New South Wales, during the fortnight December 20, 1915:—

	Metropolitan Combined Districts. Cs.	Dths.	Hunter River Combined Districts. Cs.	Dths.	Remainder of State. Cs.	Dths.	Total. Cs.	Dths.
Enteric Fever	38	3	2	2	47	2	87	7
Scarlatina	234	3	19	—	195	1	448	4
Diphtheria	83	1	10	1	114	2	207	3
Anterior-poliomyelitis	8	1	—	—	1	—	9	1
Cerebro - Spinal Meningitis	5	3	—	—	—	—	5	3
Pulmonary Tuberculosis	54	12	—	—	—	—	54	12
Malaria	2	—	—	—	—	—	2	—

SMALL-POX IN NEW SOUTH WALES.

The following cases of small-pox have been reported to the Department of Public Health, New South Wales, during the week ending December 19, 1915:—

	Cases.
Newcastle	16
Sydney (infected at Newcastle)	2
Total	18

THE HEALTH OF VICTORIA.

The following notifications have been received by the Department of Public Health, Victoria, during the week ending December 16, 1915:—

	Metropolitan. Cs.	Dths.	Rest of State. Cs.	Dths.	Total. Cs.	Dths.
Diphtheria	39	5	21	1	60	6
Scarlatina	4	0	1	1	5	1
Enteric Fever	3	1	5	0	8	1
Pulmonary Tuberculosis	17	4	17	9	34	13

The following is the return of cases of epidemic cerebro-spinal meningitis reported to the Board during the week ending December 16, 1915:—

	Metropolitan Area. Cases.	Rural Districts. Cases.	Totals. Cases.
Military	—	—	1
Civil	9	3	12

INFECTIVE DISEASES IN QUEENSLAND.

The following notifications have been received by the Department of Public Health, Queensland, during the week ending December 11, 1915:—

Disease.	No. of Cases.
Diphtheria	39
Scarlatina	5
Enteric Fever	57
Pulmonary Tuberculosis	16
Erysipelas	1
Varicella	7
Puerperal Fever	1
Cerebro-Spinal Meningitis	3
Total	129

The following notifications have been received by the Department of Public Health, Queensland, during the week ending December 18, 1915:—

Disease.	No. of Cases.
Diphtheria	30
Scarlatina	4
Enteric Fever	71
Pulmonary Tuberculosis	12
Erysipelas	1
Varicella	4
Puerperal Fever	1
Cerebro-Spinal Meningitis	1
Total	124

INFECTIVE DISEASES IN WESTERN AUSTRALIA.

The following notifications have been received by the Department of Public Health, Western Australia, during the week ending December 4, 1915:—

	Enteric Fever. Cases.	Diphtheria. Cases.	Pulmonary Tuberc'sis. Cases.	Erysipelas. Cases.	Septicaemia. Cases.
Fremantle	2	—	1	—	—
Subiaco	—	2	—	—	—
Perth	4	8	4	1	—
Maylands	—	—	1	—	—
Midland Junct.	—	—	—	—	1
Kalgoorlie	1	7	—	—	—
Boulder	—	5	—	—	—
Osborne Park	—	1	—	—	—
Meekatharra	—	—	2	—	—
Bellevue	—	—	1	—	—
York	—	—	1	—	—
Mundaring	1	—	—	—	—
Wyalcatchem	1	—	—	—	—
Kellerberrin	1	—	—	—	—
Southern Cross	1	—	—	—	—
Totals	9	23	10	1	1

INFECTIVE DISEASES.

The official report of the Federal Quarantine Bureau, dated December 7, 1915, includes information in regard to the incidence and mortality of plague, cholera, small-pox and yellow fever.

Plague.

During the period from October 3 to October 23, 1915, there were 12,454 cases of plague, in India, with 8,892 deaths. In the fortnight between October 8 and 21, 1915, there were 263 cases and 245 deaths in Java. In Morocco there were 16 cases with 4 deaths during August, at a position occupied by Spanish troops about five miles from Tetuan.

Nine cases were reported in Mauritius between August 27 and September 30, 1915, and 4 cases were reported in Ceylon between October 10 and October 16. One case and one death occurred in Egypt between October 8 and November 4, 1915, and one case and one death occurred in the Straits Settlements between November 4 and November 10, 1915.

No further cases were reported in Hongkong, New Caledonia, Philippine Islands, or South Africa.

On the arrival of *S.S. Mataram* at Thursday Island on November 12, 1915, from Singapore, *viâ* Sourabaya and Darwin, symptoms were noted in a member of the crew suggestive of plague. The patient was landed and isolated at the General Hospital. The vessel then proceeded on her voyage. Disinfection measures were carried out on arrival at Townsville. On investigation it was found that the case was not one of plague, and the vessel was consequently released from quarantine.

After the arrival of *S.S. Eastern* at Cairns on November 20, 1915, from Kobe, *viâ* Moji, Hongkong, Timor, Darwin and Thursday Island, a second-class passenger developed symptoms suggestive of plague. The patient was isolated on board, and the vessel proceeded on her voyage in quarantine. After the departure of the vessel from Cairns a third-class passenger, who had landed at that port, was taken ill at the boarding-house with symptoms suggestive

of plague. This patient was isolated, the house was thoroughly fumigated, and rat destruction was carried out in the neighbourhood. On the arrival of the vessel at Brisbane the first patient was landed at the Lytton Quarantine Station, and disinfection measures were carried out. The bacteriological tests carried out in both cases proved negative. The vessel was then released from quarantine.

Cholera.

Eighty-four additional cases of cholera and 69 deaths have been reported from Dutch East Indies. Six cases have occurred among the Austrian prisoners at Monreale in Italy (about 4 miles distant from Palermo) during the month of September, 1915. Two deaths from cholera have occurred in Hongkong. There was one case on October 9, 1915, in the Straits Settlements. The last case, which occurred in the Philippine Islands, was on August 6, 1915.

Small-pox.

There have been 34 cases of small-pox and 11 deaths since the last report in the Dutch East Indies. No other outbreaks of small-pox are recorded.

Yellow Fever.

Two cases of yellow fever have occurred in Equador during the month of August, 1915. One proved fatal.

HEALTH OF THE METROPOLIS OF SYDNEY.

The mortality return for November, 1915, as supplied by the Acting Government Statistician, shows that 866 deaths occurred in the metropolis of Sydney, including 44 deaths of individuals previously resident outside the metropolis, and deaths classified as taking place in the islands and shipping in the harbour. Thus, calculating on an estimated population of 752,500, the annual death-rate for the month works out at 13.81 per 1,000 of the population.

Deducting the deaths of persons non-residents of the metropolis in the mental hospitals of Leichhardt and Hunter's Hill (Callan Park and Gladesville), and adding the deaths of persons residents of the metropolis occurring at the benevolent asylums, mental hospitals and consumptive sanatoria situated outside the metropolis, the number of deaths was 832, giving a corrected death-rate of 13.26 per 1,000.

Among children under one year of age, 232 deaths were recorded for the metropolis.

There were 1,653 births during the month, giving a rate of 26.36 per 1,000 of the population, which is 12% below the average of the previous five years.

The infantile mortality rate was 145 per 1,000 births, which is exceptionally high, being 71% above the average for the month of the previous five years, and the highest rate for this month since 1903. The infantile mortality rate accounts to a great extent for the high general death rate during November. The cause of the increase of the mortality rate is no doubt primarily due to the exceptional weather conditions during November.

Infectious diseases were responsible for 50 deaths, of which 6 were due to measles, 7 to scarlet fever, 1 to influenza, 8 to whooping cough, 13 to diphtheria, 8 to typhoid fever, 4 to cerebro-spinal meningitis, 2 to erysipelas, and 1 to puerperal fever.

Diarrhœal diseases were credited with 190 deaths, cerebral hæmorrhage caused 18 deaths, phthisis 41, cancer 53, diseases of the heart and blood vessels 84, pneumonia 44, Bright's disease 42, and accident or negligence 23 deaths.

Compared with the average in November for the previous five years, there were increases in the number of deaths from diarrhœal diseases, epidemic diseases, diseases of the heart and blood vessels, Bright's disease and cancer, with decreases in cerebral hæmorrhage, phthisis and senility.

Four hundred and seventy-one cases of scarlet fever, 191 of diphtheria, 81 of typhoid fever, 3 of malaria, 9 of infantile paralysis, 10 of cerebro-spinal meningitis, and 149 of pulmonary tuberculosis, were notified during the month.

Twenty-eight cases of phthisis (consumption of the lungs and consumption of the throat) were notified under the City Council's By-laws, and 14 premises were disinfected by the Council's trained staff, after the removal or death of the patients.

(Signed) F. M. SUCKLING,
Acting Medical Officer of Health.

December 10, 1915.

Medical Matters in Parliament.

WESTERN AUSTRALIA.

(*Continued from page* 609.)

In the Legislative Assembly on September 7, 1915, the Hon. R. H. Underwood, Honorary Minister, in moving the second reading of the Health Act Amendment Bill, said that, in introducing the Bill, he desired to explain that it was originally intended to submit a general measure to amend the Health Act. It was, however, remembered that, in this session, they had set out to avoid controversial matters. The bill dealt with one particular question of the health of the community which was urgent, but which had absolutely no party significance. It treated of what was known as venereal disease. Authorities were unanimous on the proposition that, after every war, there was a great increase in venereal disease in countries which had been at war. Since the present was the greatest war the world had ever known, they could realise the trouble awaiting them in the future. Some persons had said that medical men had exaggerated the volume of this disease in Australia. If there was not much of it in Australia at the present time he could promise them there would be shiploads of it by the time their men came home again. If ever they had an urgent matter to deal with, the question of giving attention to venereal diseases was urgent at that moment. The Bill that he was introducing applied equally to both sexes. There was some variation of opinion as to the volume of venereal disease in their midst. Sir H. B. Allen, Professor of Pathology at Melbourne, took, in his opinion, an exaggerated view of the question. He had stated that the disease in Melbourne affected an enormous number of persons. He had gone so far as to say that 10% of the children of Melbourne were afflicted with syphilis. It was an exaggeration. Dr. Bennie had differed from Professor Allen, and had summed up his remarks in the words. "while we are thus not disposed to quite agree with the pathologist that syphilis is so prevalent, I think we must all admit that syphilis is a most terrible disease. In fact I would say that syphilis is the most serious disease that any individual can contract." Leaving other places out of the question they could consider their own State. Dr. Montgomerie had reported that the percentage of cases due to syphilis under his care was greater than was quoted by latest authorities as a fair average. The report stated that general paralysis of the insane was, practically in every case, due to syphilis. Two or three medical men resident in their midst had expressed the opinion that fully 20% of the sickness treated at the Perth Hospital would disappear if venereal diseases were eliminated. It was said that 25% of the deaths in the babies' wards of the Children's Hospital were due to syphilis. They could appeal to all men and women in Western Australia on behalf of those suffering babies. Syphilis attacked all parts of the body. It was found in all grades of society. The disease had one phase to which he directed attention. It predisposed to almost all other diseases. Many persons who were suffering from tuberculosis had been affected since their systems had been weakened by syphilis. It was computed that a man suffering from this disease had a three times greater chance of catching typhoid fever, and a seven to one greater chance of being affected with diphtheria. Syphilis was hereditary, and, on the ground of heredity and the

suffering of innocent children, they should do their utmost to stamp out the disease. He would now explain the provisions of the Bill. In the first place it was provided that only medical practitioners should attend to and prescribe for this disease. Venereal disease was curable if treated in a proper manner in the early stages. A system had grown up, whether right or wrong he would not say, whereby a person suffering from venereal disease became ashamed of himself, and such a person was also somewhat afraid of the charges that would be levied on him by the medical profession. In consequence such persons became the prey of quacks. The Bill provided that no person but a medical man should treat the disease. Chemists might, of course, dispense prescriptions by doctors. They might also sell patent medicines which were approved by the Commissioner of Public Health. Otherwise they were not allowed to sell anything purporting to cure the disease. The next clause provided that all persons suffering from the disease should, within three days of becoming aware that they were infected, consult a medical man. Another clause provided that, having reported the disease, the person affected must continue the treatment until he was cured, or until he obtained a medical certificate to that effect. He was not forced to attend the one medical man. He might change from one medical man to another, but if he did so, he must notify the second medical practitioner that he had been under treatment by a medical practitioner previously. The medical practitioners must report cases to the Commissioner, but without names and addresses. The Commissioner would receive these reports which would be treated as confidential. Further on, it was provided that, if the treatment was not continued, then the medical man having the case should report the same to the Commissioner, giving the name and the address. The person would have to continue under treatment until cured. A clause set forth that medical men must warn patients of the danger of the disease, and the legal consequences of infecting others, and also as to the great risk to their children if the patients should marry. Parents and guardians of sufferers under the age of 16 must use their authority to compel submission to treatment, or report to the Commissioner. No person should knowingly infect another, under a penalty of £50, or a term of imprisonment. One of the principal reasons that men and women were afraid of this disease was the expense involved in a cure of it. The Bill provided that all subsidized hospitals and all salaried medical men must give treatment free of charge. Almost the last clause of the Bill prohibited what might be termed quack advertisements. Throughout the Bill the masculine gender was used, but a clause was inserted so that there might be no mistake that the masculine also included the feminine gender. The Commissioner would have power to ascertain what persons were suffering, to institute proceedings to bring them before medical authorities, and to compel treatment. The most important clause in the Bill provided that when the Commissioner has reason to believe that a person was infected he might authorize examination. If it was not intended to take action, if the Minister controlling was not desirous of acting the Commissioner would not pay much attention to that provision; but, if the Minister was desirous of going on, he would have power to do so, and the Commissioner would be authorized to carry out this work. In his opinion it was absolutely necessary that any person suffering from the disease should be rendered non-contagious. Again, treatment for this disease was rendered absolutely inoperative and ineffectual if the patient took alcoholic liquor. On being informed by a medical officer, or even by the police, that a sufferer from this disease was frequently in an intoxicated condition it would be the duty of the Commissioner to take action and place such person under constraint until he was cured, or, at least, rendered non-contagious. The measure really covered all the recommendations made by the select committee, composed of Drs. Atkinson, Ramsay and Pope Seed, which was appointed some years before, with the exception of the matter of education. He moved that the Bill be read a second time.

On the motion of Mr. George the debate was adjourned.

(To be continued.)

Correspondence.

EPIDEMIC CEREBRO-SPINAL MENINGITIS.

Sir,—In your issue of December 18, 1915, Dr. Lionel B. Bull writes under the above heading, with reference to a paper read by me at a meeting of the Victorian Branch of the British Medical Association on October 6, 1915, and subsequently published in the *Journal*.

I should regret very much if my remarks gave rise to any misconception regarding the practical value of the bacteriological examination of the naso-pharyngeal secretions for the detection of "carriers" of this disease, and appreciate Dr. Bull's letter, with its endeavour to remove such impressions.

However, perhaps you will allow me to state that I was speaking with regard to the ideal of scientific accuracy.

I quite agree with Dr. Bull that valuable practical results may be arrived at by less elaborate methods than those involved in the isolation of the Gram-negative cocci in pure culture, and their subsequent subjection to fermentation tests.

My experience with regard to the characteristic features of the meningococcus colony has been identical with Dr. Bull's, and I have placed a great deal of reliance upon it.

In the examination of contacts and convalescents at the Children's Hospital, it has been my practice to utilize these distinctive features of the colonies, subject to control by microscopic examination, as a basis for reports which are thus issued sooner than by the longer (but nevertheless the more ideal) method.

Yours, etc.,
REGINALD WEBSTER.

Clinical Pathologist,
Children's Hospital, Melbourne.
December 20, 1915.

Obituary.

JAMES FAIRBURN FAIRLEY.

It is with the greatest regret that we have to record yet another victim of the war, Captain J. Fairburn Fairley, R.A.M.C., of Melbourne, at the Seventh Stationary Hospital, Boulogne, on October 10, 1915. It would seem as if the fatalities among the members of the medical profession have affected just those members who can least be spared, and in whose future the most could reasonably have been expected. The real worth of Dr. Fairley has been appreciated to the full extent by his comardes at the Melbourne University, by his contemporaries and seniors at the Melbourne Hospital, and more recently by numerous members of the medical profession with whom he came into intimate contact while pursuing his post-graduate studies in London.

James Fairburn Fairley graduated at the Melbourne University in 1909, carrying with him first class honours at the final M.B. examination. During the following twelve months, he was Resident Medical Officer at the Melbourne Hospital, and during his term of office he gained the admiration, esteem and affection of the members of the honorary and resident staffs. In 1910 he obtained the degree of Doctor of Medicine. He was appointed Senior Resident Medical Officer at the Children's Hospital at the termination of his Melbourne Hospital year of service. Later he went to London for the purpose of extending his experience in surgery, and obtained various resident appointments at hospitals within the metropolis. In 1912 he passed the examination of the Fellowship of the Royal College of Surgeons of England.

At the outbreak of war he resigned his position at St. Peter's Hospital for Stone and other Urinary Diseases, in Covent Garden, in order to join the first Expeditionary Force, with the rank of lieutenant in the R.A.M.C. He was attached to a field ambulance at first, and subsequently was appointed regimental officer to the 31st Heavy Battery. He was on duty during the battle of the Aisne, in France, and served with his regiment during the fighting at Armentières and Ypres, in Belgium. After seven months he was